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ABSTRACT

This monograph presents 11 papers which bring together information to help administrators, faculty, and staff in institutions of higher education better understand the needs of college freshmen and other new students with disabilities, including ways to meet those needs and the legal requirements which affect decision-making about service provision. An introductory chapter notes the increasing numbers of students reporting a disability, the varying situations of such students, and commonalities. The 11 papers are: (1) "Special Talents in a Not-So-New Population" (Thomas G. West); (2) "Hidden Abilities--Visible Disabilities?" (Linda Lucas Walling); (3) "The Human Factor" (William H. Jones); (4) "Multiple Stigma or Multiple Opportunity?: New Students with Disabilities from Diverse Cultural Backgrounds" (Blanche Glimps and Karen F. Davis); (5) "Students with Learning Disabilities and the Social Domain" (Nancy Mari Purcell); (6) "Marginal Beginnings but Great Endings" (Angela Renaud); (7) "A Safety Net for Success: An Approach to Transition Planning" (Jolene Bordewick); (8) "Leveling the Playing Field: Alternative Testing Arrangements" (Margaret A. Chmielewski); (9) "Lessening Stumbling Blocks to Retention through Accessible Academic Libraries" (Donna Z. Pontau); (10) "Building Bridges for Institutions of Higher Education: Assistive Technology Resources" (Robbie Ludy and Merv Blunt); and (11) "The Legal Perspective: Higher Education and Students with Disabilities" (Rosvelt Martain, Jr.). Three appendices describe communication techniques often used by people with selected disabilities; list state assistive technology projects; and list selected organizations, serials, and Internet resources. (Individual papers contain references and 20 general recommended readings are listed.) (DB)

ED 402 713

Monograph Series
Number 21

Hidden Abilities In Higher Education:

New College Students with Disabilities

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University of South Carolina, 1996

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Number 21

Hidden Abilities

In Higher Education:

New College Students with Disabilities

Linda Lucas Walling

Editor

National Resource Center for
The Freshman Year Experience & Students in Transition
University of South Carolina, 1996

The image used for the cover and throughout the monograph is a rendering of a diagram of the mind as drawn by 19th century phrenologists.

Additional copies of this monograph may be ordered for $30 each from the National Resource Center for The Freshman Year Experience and Students in Transition, 1728 College Street, University of South Carolina, Columbia, SC 29208. Telephone (803) 777-6029. Telefax (803) 777-4699.

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Hidden Abilities in Higher Education: New College Students with Disabilities

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Preface

PREFACE

John N. Gardner

It is with pleasure that we bring this monograph, *Hidden Abilities in Higher Education: New College Students with Disabilities,* to the readership of The Freshman Year Experience monograph series. I am especially pleased to introduce the monograph because of my long-standing association with the editor-in-chief, Dr. Linda Lucas Walling, who is a Professor in the College of Library and Information Science at the University of South Carolina at Columbia. Dr. Walling is a national authority on serving students with disabilities, especially those students needing library and information retrieval support. Given the nation's dramatic increase in emphasis in recent years on the rights and needs of our citizens with disabilities, this monograph is long overdue.

In February of 1994, the National Resource Center hosted a special one-day national forum on the topic of new students with disabilities, in conjunction with our Annual National Conference on The Freshman Year Experience. The discussion sessions at this forum acted as the catalyst for this monograph. Under the leadership of Linda Lucas Walling, we made the project a reality.

It is easy to make a compelling case for paying more attention to first-year students with disabilities. Recent studies on this topic have estimated that at least 9% of all entering college students have some form of disability. If we factor in learning disabilities such as attention deficit disorder, the number of students in that category rises dramatically. On a very personal note, in 1993, when I was a 49-year-old higher educator, both my son, who was a high school senior, and I were diagnosed with attention deficit disorder. When I first entered Marietta College as a new student in 1961, how I wish the faculty had been more knowledgeable about the topic of new students with disabilities.

As always, I thank readers such as you for your support of the monograph series of the National Resource Center for The Freshman Year Experience and Students in Transition. We sincerely hope that this monograph will help you in enhancing the learning and success of students in transition.

Hidden Abilities In Higher Education: An Introduction

Linda Lucas Walling

College students with disabilities are nothing new on campus. Thirty plus years ago as a college senior with mild cerebral palsy, and later as a graduate student, I was a subject of dissertation research on the issue (Hansen, 1963; Hutchinson, 1966). No office for services to students with disabilities existed in those days; each of us negotiated with our professors as best we could. There was neither a Rehabilitation Act of 1973 nor an Americans with Disabilities Act. Since my disability is mild, I needed adaptations for only a few classes. My professors were consistently supportive of my needs; but students with disabilities which required frequent or extensive adaptations were rarely seen on campuses.

The situation a college student with a disability faces today differs greatly from the situation a student faced in the late 1950s and early 1960s. There are stronger support systems, and there is legal affirmation of the right to seek higher education. New understanding of disability and increased availability of technological solutions mean that more students requiring extensive adaptations may enroll. Perhaps the most important difference lies in the self-concept of many contemporary students with disabilities. What society perceives as a disability represents, for many students, an important part of their personality, not something to feel depressed or burdened about. Joseph Shapiro's (1993) *No Pity* describes this shift in self-perception.

There are also similarities between the 1960s and today. The most striking for me is expressed in the title chosen for this monograph, *Hidden Abilities in Higher Education*. Many students still find their abilities hidden by their disabilities; for example, they still find themselves identified by disability ("the man in the wheelchair"; "the woman who is blind") or perceived as totally disabled (people speak more loudly to someone who is blind, they direct questions to the companion rather than to the individual in the wheelchair, they treat people who cannot speak clearly or who have learning disabilities as if they were mentally retarded).

Attitudes change slowly. Negative attitudes constitute the greatest barrier to students. Applicants for college admission who have disabilities must meet the general admission requirements of the institution; thus, a new student with a disability has intellectual abilities similar to those of his or her classmates. This statement should be obvious. Because many people in society still perceive disability as negating ability of any kind, the students and staffs of offices for services to students with disabilities often find themselves fighting negative perceptions of intellectual ability from faculty and other students.

Demographics

Information from HEATH (College Freshmen with Disabilities, 1993) reports a study by Cathy Henderson (1992). Among the study's findings are the following: The number of freshmen reporting a disability has increased dramatically since 1978, the year the Education for All Handicapped Children Act was implemented. In 1978, 2.6 % of all freshmen reported a disability; in 1991, 8.8 % reported one. According to Henderson's study, freshmen with disabilities are more likely to be male, and they are older than other freshmen. Henderson did not report the frequency of multiple disability, but one can be certain that many freshmen have multiple disabilities. For example, a student with a mobility disability also may have learning and/or speech disabilities. One cannot tell from the data given how many fall in the overlap.

The New Student's Situation

A new student with a disability typically arrives on campus in one of three situations: (1) as a new high school graduate, (2) as a mature (nontraditional) student, or (3) with an acquired disability. These categories are not mutually exclusive. A beginning college student can be a new high school graduate who is a mature adult with a disability acquired a few years ago in a diving accident.

New High School Graduates

Many new high school graduates have completed primary and secondary school with varying degrees of support since the implementation of the Education for All Handicapped Children Act in 1978. With the implementation of the 1990 amendments to that Act (now called Individuals with Disabilities Education Act, or IDEA), transition plans help these graduates prepare for life after high school.

A large number of these students have developmental disabilities that occur in childhood and severely impact an individual's ability to function independently. They usually continue throughout a person's lifetime. Cerebral palsy is an example of a developmental disability common among college students. Some students with developmental disabilities arrive on campus from homes and school settings where they were overprotected and underchallenged; to succeed in college, they need to learn to make their own decisions, to be their own advocates, to develop their own social networks, and to locate their own resources. A young man with cerebral palsy whom I interviewed a few years ago said that he was not well prepared for college in the elementary and secondary schools he attended; his teachers did not challenge him sufficiently, nor did they prepare him for the competitive classroom situations he faced in college.

Mature Students

Increasingly, adults who had difficulty learning in primary and secondary schools decide after some years to try college. Perhaps they themselves or family members see a television program or read an article about learning disabilities or attention deficit disorder; the descriptions of the symptoms seem strikingly familiar, so the people wonder if they might have such a disability. Many of them attended primary and secondary school before the Education for All Handicapped Children Act was implemented; or, if they attended school in recent years, they may have "slipped through the cracks," undiagnosed and frustrated by their struggle to learn. These students typically feel confident that they are bright and willing to work hard. Their previous negative experiences with school, however, may leave them less confident that they can succeed in college. Some must complete a high school equivalency (GED) program before they can begin college level work. They need support and encouragement to develop confidence.

Acquired Disabilities

A third category of new college students with disabilities includes teenagers and adults who never planned to go to college; they wanted to join the Marines, be auto mechanics, or work in construction. Their plans were disrupted (or their career was interrupted) by an accident or a chronic health condition. To different degrees, they find they can no longer use their bodies but must rely on their minds.

Often individuals in this situation carry a great deal of bitterness and anger because of the disability. Such a feeling (perhaps a grief response) is not surprising. Beatrice Wright (1983) notes the immense changes an individual who acquires a disability must make in his or her self-image. Drastic lifestyle changes are demanded, and new techniques for carrying out life skills must be discovered.

These days, we talk and read extensively about multiple intelligences (Gardner, 1983) and preferred learning styles. For many students with high spinal cord injuries, the preferred learning style is no longer available; a less preferred, but still available, approach must be used. An undergraduate with a high spinal cord injury once described his learning situation to me. He came from a family of auto mechanics and loved to work with his hands, but a diving accident changed his life. In college he found himself especially frustrated by math courses. His best learning took place when he worked the problems out on paper with his hands; he found it exceptionally difficult to understand problems using only his mind. Individuals who are blocked from using their preferred learning style and whose life situations prevent them from fully utilizing the abilities still available need help, support, and understanding as they learn to cope with their new lives.

Some individuals in this third group also struggle with the challenges of traumatic brain injury, which include memory loss, cognitive, and/or perceptual disabilities. Some experience emotional and behavioral responses which are difficult to understand and manage. Their learning abilities may be affected in subtle and complex ways.

Some Issues Common to Students with Disabilities

New students with disabilities, regardless of type, generally have several common concerns. Most need extra time to carry out life activities, so most become good logistical planners with excellent organizational skills; for example, students who are blind or use wheelchairs must allow plenty of time for travel and plan their trips judiciously. For many students, especially those with chronic health problems or mobility and dexterity disabilities, fatigue factors must be taken into account. Alternative abilities which they use typically require more energy. Course scheduling, accommodations, and support services must consider these realities.

Because some, but not all, developmental disabilities and chronic health conditions are progressive, a few students need special support as they plan their futures. Some may face death at an early age. In addition to supportive counseling to deal with emotional stress, these students require sensitive, realistic career counseling. A college student with Fredrich's Ataxia (a genetic, progressive neurological condition) described to me his checkered pattern of majors and career goals; none of his counselors took the progressive aspect of his disability into account, and he did not know the right questions to ask. As his condition progressed, he kept having to change majors, taking additional courses and making new psychological adjustments in terms of career as well as health. Advisors and counselors must not make assumptions about the direction a student's life will take but should be sure that the student is aware of the range of possibilities which exist so that he or she can make informed career decisions.

Most new students with disabilities identify the attitudes of their teachers and classmates, as well as those of the staff members of the institution, as major factors in their success. Too often they must struggle to convince their teachers and classmates that they are capable of college-level work. Accurately or inaccurately, many of them perceive the staff of the office for disabled student services as aligned with the institution rather than working to support the needs of the students. In higher education, we must look carefully at our own attitudes to insure that we do not set up barriers for students. Jaschik (1993) quotes Kirk MacGugan, physical and environmental disability coordinator at San Francisco State University: "This is about integration, about breaking away from the isolation of special buses, special rooms, and special dorms. We've got to keep reminding ourselves that 'separate but equal' is not equal" (A26).

The Purpose of the Monograph

This monograph brings together information to help administrators, faculty, and staff in institutions of higher education better understand the needs of new students with disabilities; it presents possible solutions for meeting those needs and discusses the legal requirements which affect decision-making about service provision. The chapter by Thomas G. West establishes a context for a different view of disability, suggesting that some who are perceived as disabled in today's world (those who are visual, nonlinear learners) will perceive verbal, linear learners as disabled in the future. The editor addresses characteristics of disabilities which impact education and the kinds of adaptations, including adaptive technology, which are typically required; William H. Jones describes a study of the characteristics of effective offices for services to students with disabilities. Blanche Glimps and Karen F. Davis look at multicultural issues, while Nancy Mari Purcell addresses disability-related issues which impact social interaction. Jolene Bordewick reports on a project to support new college students in their transition from high school. Although funding for the project was discontinued, the project provides clues about the support which is needed, the problems which must be addressed for successful transitions, and institutional concerns and issues. Angela Renaud and Margaret A. Chmielewski address issues related to the provision of support services and adaptations in the classroom, and Donna Z. Pontau describes effective library services. Robbie Ludy and Merv Blunt discuss the impact of technology in the lives of new students with disabilities and identify sources for funding the technology. Finally, Rosvelt Martain, Jr. reviews the legal basis for the provision of special services for students with disabilities.

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CHAPTER ONE

Special Talents in a Not-So-New Population*

Thomas G. West

> . . . Faraday, in his mind's eye, saw lines of force traversing all space where the mathematicians saw centres of force attracting at a distance: Faraday saw a medium where they saw nothing but distance: Faraday sought the seat of the phenomena in real actions going on in the medium, they were satisfied that they had found it in a power of action at a distance impressed on the electric fluids.
>
> ——James Clerk Maxwell, *Treatise on Electricity and Magnetism,* 1891/1954.

> In the mind's eye, a fractal is a way of seeing infinity.
>
> ——James Gleick, *Chaos,* 1987.

The title of my chapter is "Special Talents in a Not-So-New Population." The presumption of this monograph, as I understand it, is that we are all interested in learning how to deal with a population that, until recently, has rarely had the opportunity of a college education—in part because it has been believed that individuals in this group do not have the ability to do the kind of academic work required at the college level. I argue that these attitudes about disabled students are not as accurate as one might suppose.

Indeed, I espouse the opposite point of view: I argue that this kind of student has always been involved in undergraduate education and graduate school and professional school. Until very recently, however, many of these students

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*This article is based on a keynote address given on February 18, 1994, at the National Forum on Disabled New Students sponsored by the National Resource Center for The Freshman Year Experience, University of South Carolina, Columbia, SC. Its content is adapted from information published in *In the Mind's Eye* and other articles and talks by Thomas G. West (1991).

were smart enough and devious enough to escape detection. They have always been with us, but almost no one knew it.

Furthermore, I argue that many of those who would hear such a claim would not believe it. I would guess that a majority of your faculty would refuse on principle to believe such an assertion, especially when the student in question appears to be very bright. In my experience, most professors still believe that smart students and learning disabled or dyslexic students are two distinct groups which do not overlap. I hope that what I have to say will persuade you that these groups overlap quite often. Moreover, if you do not need persuading that this is the case, I hope my chapter and this monograph provide you with ammunition to persuade others on your campuses.

Now I should note in passing that I am aware that this monograph's topic is "New Students with Disabilities"—all kinds of disabilities. I will be addressing here, however, exclusively learning disabilities, dyslexia and the like. I maintain, however, that in a deep way each kind of disability is similar to the others.

From my earliest days, I grew up in a family where having a disability was taken for granted. My mother had lost a great deal of her hearing from two bouts with scarlet fever when she was a small child, yet my brother and I never gave much thought to it. In fact, because she read lips very well, my brother and I quickly learned (as children do, the learning machines that they are) that the use of the sound of our voice was optional. Cousins and aunts still tell stories of how surprised they were to hear a strange one-sided conversation and then enter a room where my mother was talking to my brother and me.

What is really important about this life experience is that my brother and I were taught by example that "a handicap can be comparatively unimportant when you build your life around your talents rather than your disabilities" (West, 1991, p. 344). Or, as my father put it, "almost everyone has a handicap—some are just more obvious than others."

My mother was trained as a painter; my mother and father met in art school. Throughout her life (she is now an active 85 years old) she has shown a remarkable ability to cope coolly and cleverly with a wide variety of situations. She has been a visual person working in a visual realm and a good manager dealing with the many small and large problems of raising a family with a long-standing, but not insurmountable, handicap. Her example tells us that, while you may have a problem, you probably also have the skills and talents needed to deal with it or even to make it irrelevant. I suspect this model had a great deal of influence on my approach to my own handicap, dyslexia.

Returning to the main topic, I argue that "new" college students with learning differences and learning disabilities should not be seen as an administrative challenge for providing new and expensive services but rather as the harbingers of profound changes that will affect the entire academic enterprise—what is taught as well as how it is taught. While these students vary greatly, they often have a range of verbal difficulties which are accompanied by exceptional visual-spatial talents. If I am right, however, the tasks these new students are not good at will be seen over time as less and less important while what they are good at will be seen as more and more important.

In recent years, many fields have witnessed a return to visual thinking. This reversal is notable because visual approaches have been relatively unfashionable in many disciplines for a hundred years or more. In spite of this long-term trend, however, visual images and analogies have long been covert yet major factors in the innovative work of important physicists, chemists, mathematicians, inventors, and engineers, as well as artists, politicians, and poets. Currently, "scientific data visualization," medical imaging, "business visualization," and other computer graphics-based technologies and techniques are transforming the workplace and, much more gradually, the educational system.

Few have noticed the power of these new techniques. But I believe that this power will soon be widely recognized; great chunks of the old system will be tossed out, and entirely new ways of learning and working will be put in their place. Of course, a great deal of resistance to these changes will come from those accustomed to the old ways. I believe, however, that the change will take place more quickly than we might expect. And time is on the side of those who have difficulty with traditional academic work but rapidly adapt to new technologies and approaches.

I argue that, because of a profound shift from verbal to visual approaches, the visual-spatial talents and skills these students typically have in abundance will be increasingly necessary for the analysis and solution of complex problems—problems that will win or lose scientific recognition, markets for profitable products, and millions of dollars in international financial exchanges. Because of these changes, visual-spatial talents will begin to take on high value and prestige, while traditional verbal-based academic skills will be less important.

When computer networks and expert systems can deliver detailed factual information on demand, society will value verbal-based abilities less, and few people will be willing to invest many years in learning to do something a machine can do faster, cheaper, and with more accuracy. With such changes, what will come to be most valued is the ability to survey information and select the most important aspects—the ability to see the big picture, to recognize patterns in complex systems and provide well-integrated solutions. As James Gleick (1987) observes in *Chaos*, with these new graphic technologies and techniques, "if you can visualize the shape, you can understand the system" (p. 47).

Visually-talented students with verbal difficulties have long been hidden in undergraduate programs, professional schools, and demanding occupations, yet the prevalence of these "pretenders" is only now revealing itself (Guyer, 1988). In an economic landscape where long-held beliefs concerning education and career are being profoundly shaken, we may find that many of those ill-suited for the remnants of a 19th-century educational system and workplace turn out to be well-suited for a 21st-century educational system and workplace.

Giftedness Perceived As Disability

Let me now focus with greater definition on my main topic. When people think about dyslexia and related disabilities, they are usually, almost by definition, concerned with a set of problems. Today, as I have suggested, I want to consider the other side; I want to investigate the gifts and talents and special abilities that often accompany the problems.

In its broadest meaning, dyslexia means trouble with words—words read, written, spoken, recalled on demand, composed, organized, memorized with complex rules from foreign languages—that is, difficulties or inefficiencies with a part of the whole language system. This is the perspective of many neurologists and is much broader than definitions usually used by legislators, educators, and administrators.

Surprisingly, along with these difficulties with words, there often comes a varied set of special abilities—abilities that I have chosen, partly for the sake of simplicity, to refer to as visual and spatial.

The distinction may not be fully adequate, but it leads us in the right direction; that is, it contrasts the analytical linearity of words with the complex, interdependent, simultaneous wholeness of pictures and images. It also allows us to refer to the styles of thinking generally attributed to the left and right hemispheres of the brain without the considerable confusion often produced among those who have difficulty following a discussion which repeatedly refers to crossovers between left and right.

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The importance of the simultaneous wholeness of pictures is captured in words with striking aptness by Winston Churchill (1932): "We think that the same mind's eye that can justly survey and appraise and prescribe beforehand the values of a truly great picture in one all-embracing regard, in one flash of simultaneous and homogeneous comprehension, would also . . . be able to pronounce with sureness upon any other high activity of the human intellect" (pp. 311-312).

The proposed change from verbal to visual will have profound consequences. When we begin to use the newest technologies in powerful ways, we should not be surprised when we tap into some of our oldest and most primitive neurological talents, the visual-spatial talents. In so doing, we may begin to see ourselves and our world with very different eyes, which will lead in time to fundamentally different attitudes toward education, work, and even concepts of intelligence (Gardner, 1983).

For many decades, scientists, mathematicians, and others have tried to turn away from visual approaches; there did not seem to be enough precision and logical rigor. Words, symbols, and numbers had high status; pictures were for children. Now, however, these visual approaches are returning to central positions in many fields. Many researchers now focus on scientific data visualization, arguing that only graphically-oriented technologies and modes of analysis can deal with today's complex problems and massive volumes of data. But these new approaches place new demands on the abilities of individual researchers and workers at all levels, requiring visual proficiencies that not all have in equal measure.

Some psychologists argue that visual-spatial abilities should be seen as a special form of intelligence, on a par with verbal or logical-mathematical or other forms of intelligence. Yet for a long time our educational system has focused almost exclusively on one form of intelligence. Thus, we are presented with an unexpected pattern. Some of those who have most difficulty learning old knowledge (especially when based on memorized, static, verbal rules and instructions) may have the least difficulty learning new knowledge, especially that derived from rich, dynamic mental models and computer-assisted visualizations. In recent years, neurological research has provided a possible explanation for this apparent paradox. There is evidence that some forms of early brain growth and development tend to produce verbal and other learning difficulties at the same time that they produce a variety of exceptional visual and spatial talents (Galaburda, 1993). For many in this group, the "easy things" in the early school years are hard, but the "hard things" in graduate school and professional life are easy. This pattern is hard for many to understand or believe, yet the evidence continues to mount.

More and more of those working at the edge of these new technologies, in the sciences as well as business or the professions, are recognizing these unexpected patterns. For example, Dr. Larry Smarr (e-mail communication, August 6, 1994), a physicist, astronomer and director of a supercomputer center, recently commented: "I have often argued in my public talks that the graduate education process that produces physicists is totally skewed to selecting those with analytic skills and rejecting those with visual or holistic skills. I have claimed that with the rise of scientific visualization as a new mode of scientific discovery, a new class of minds will arise as scientists. In my own life, my 'guru' in computational science was a dyslexic and he certainly saw the world in a different and much more effective manner than his colleagues . . . ."

Although reform efforts have called for change, the traditional educational system has long ignored this pattern. Indeed, for some 400 or 500 years our schools have been primarily teaching the skills of a medieval clerk: reading, writing, counting, and memorizing texts. Today, however, it seems we are on the verge of a really new era in which we will be required to develop visually-based talents and skills; whether we want to or not, we will be cultivating skills like those of a Renaissance visual thinker such as Leonardo da Vinci rather than those of the scholar or schoolman of the Middle Ages.

With these changes, past ideas of desirable talents and skills would be transformed dramatically. Of course, the conventional skills will always be needed and valued to some extent, but not so much as previously. Before too long, we may find that semi-intelligent machines will be more "learned" and better read, with more complete and accurate memories, than even the most experienced and most conscientious of the traditional scholars in any field.

Consequently, in the future, instead of the qualities desired in a well-trained clerk, we might find far more valuable the qualities often associated with Leonardo: a facility with visual-spatial approaches and modes of analysis instead of mainly verbal (or numerical or symbolic) fluency; a predisposition to innovation in making connections between many diverse fields; a propensity to learn from many senses and directly through experience (or simulated experience) rather than from lectures and books; a habit of continuous investigation in many different areas of study through ceaseless inquiry, perhaps with occasional transient specialization; the more integrated perspective of the global generalist rather than the increasingly narrow specialist; an ability to move rapidly through many phases of research, development, and design using "intuitive" mental models and imagination, now incorporating three-dimensional, computer-aided design systems.

If my speculations are correct, Leonardo's predisposition to investigation and analysis through visualization may come to serve us as well as it served him, providing innovative results well in advance of competing groups which follow more conventional approaches. Thus, we might be in a position to come full circle, using the most advanced technologies and techniques to draw on some of the most old-fashioned approaches and capacities to simulate reality rather than describe it in words or numbers; to learn by doing rather than by reading or listening to lectures; to learn, once again, by seeing and experimenting rather than following memorized algorithms and routines. In so doing, all of us will develop greater respect for abilities and intelligences that were always vitally important yet have been generally eclipsed by verbal abilities most valued by traditional academics. Sometimes, the oldest pathways and most primitive patterns can be the best guides into uncharted waters.

In the not too distant future, machines will be the best clerks. Accordingly, we must learn to develop distinctly human talents, the insightful and broadly integrative capacities associated with visual-spatial modes of thought. As we contemplate these possible changes, we can see that there may be little choice about the coming transformations in education and work. If we continue to educate people who have primarily the skills, perspectives, and attitudes of medieval clerks, we may turn out people who, like the unskilled laborers of the last century, will be unable to compete with increasingly intelligent machines, will have less and less to contribute to the real needs of our culture, and will have less and less to sell in the marketplace (Weiner, 1948/1961). As we now know, many of the most routine functions of the copy editor, bank clerk, and bookkeeper are already being performed more rapidly and cheaply by machines. In similar fashion, expert computer systems and artificial life agents may soon learn to replicate the routine professional judgments of attorneys, engineers, physicians, and investment bankers.

It is a sobering view, but if we can learn to see the world in this new way, we may find solutions in the place of problems and see that we are surrounded by much more talent than we imagined. Indeed, we may discover we have wasted much in lost time and lost self-esteem by focusing on basic skills when we should have been focusing on the high-level thinking, mental modeling, and visualization skills sometimes hidden beneath a variety of academic weaknesses. After all, young people must make their way in the world based on what they can do better than others, not on the basics which, by definition, can be done by many.

This new approach will, of course, be especially difficult, since it will involve reeducating ourselves about the demands of a changing world as much as educating others. But if we can do this, we can begin to build educational and work experiences based on one's strengths rather than one's needs. Then, perhaps, we will see that "a handicap can be comparatively unimportant when you build your life around your talents—rather than your disabilities" (West, 1991, p. 344).

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CHAPTER TWO

Hidden Abilities–Visible Disabilities?

Linda Lucas Walling

The following overview investigates the abilities students with disabilities bring to higher education and the compensations such as adaptive technology that they typically need to support the full use of their abilities. Additional information on communication techniques can be found in Appendix A; a booklet produced at Loyalist College in Ontario, Canada, titled *Focus on Disability: A Resource for Professionals Working with Disabled People* (Morrison, 1988), contains extensive information for faculty. In this chapter discussion of the disabilities is ordered according to their probable frequency among full-time freshmen (Disability status by sector, 1994).

Visual Impairments

People generally believe that they receive most of their information with their eyes and have great fear of losing their eyesight. But students who are blind communicate their intelligence through speech, and their intellectual abilities are seldom questioned. Extensive programs are in place to help them learn mobility and other life skills; the students learn to use their residual vision and other senses in order to cope with the disability. Colleges and universities have enrolled them and have made at least some accommodations for them for many years.

Visual disabilities include such things as retinitus pigmentosa, in which peripheral vision is lost, and macular degeneration, in which central vision is lost. Students who have visual impairments need auditory or tactile support to understand visuals used in the classroom as well as braille, audio, and/or large print materials, signage, and maps. They require uncluttered, well-marked aisles and walkways to reach their destinations safely. Adaptive technology supports input and output in alternative tactile and/or auditory formats.

Blindness

Nearly all people who are categorized as legally blind have some residual vision. Many see well enough to find their way around without a white cane or a guide dog, though they have great difficulty in reading regular print. Hearing and touch are important abilities such students bring to a college classroom.

Braille is less commonly used today than it was before audio recordings were so widely available. In the sciences, however, braille is still a valued medium of communication. The advent of refreshable braille makes it less cumbersome to use. (Refreshable braille is digitalized and recorded as an audio recording would be. It is read with the finger a line at a time as braille characters are raised and lowered on a piece of tape.) Because not all material is available in refreshable braille format, bulky braille volumes may still be needed.

Some students take class notes using special paper and a braille stylus; at home they may use a Perkins brailler. Some tape record class lectures as an alternative to note-taking and listen to texts and other reading material in audio-recorded formats, while others need readers to read texts aloud to them, take notes, and serve as scribes, recording their answers to tests and writing out their class papers as dictated. In classes in which films or videos are used, students who are blind may benefit from descriptive videos which include narrative description inserted between dialogue segments.

A variety of computer technologies can support students who are blind. Text readers, for example, scan text line by line, digitalize it, and read it aloud through a speech synthesizer; alternately, the digitalized text can be converted into raised letters, braille, or large print output. For many students, braille computer keyboards and braille printers supplant the old Perkins brailler. Students with access to the technology can input material using a braille keyboard, review their input through refreshable braille or a speech synthesizer, and have the paper printed out first in braille for proofreading, then in regular print to submit to the professor.

A professor who is blind described another way he uses his speech synthesizer:

> A deaf student and I sit at my desk and swap my computer keyboard back and forth. When I type, the deaf student reads my comments on the monitor, and when he or she types, my synthesizer speaks it to me. Both of us find this more intimate than working through a third party. (Coombs, 1994)

In recent years, DOS-based systems have opened up many educational and employment opportunities for people who are blind. The move to Graphical User Interface (GUI) access has caused great difficulty for them because it is highly visual; while software manufacturers have begun to provide interfaces to make GUI-based software accessible to people who are blind, people often find that adequate interfaces are not available (Coombs & Banks, 1994).

Low vision

With special training and specially designed glasses, many people learn to compensate for their loss through residual central or peripheral vision; some read regular print by holding the material close to their faces or at unusual angles, while others read large print books or use scanning devices which digitalize print and increase its size line by line or convert it to speech. Some students change the foreground and background colors on the computer monitor in order to read the screen more easily. Depending on the degree of visual loss, a student may need adaptations similar to those of a student who is legally blind.

Learning Disabilities and Attention Deficit Disorder (ADD)

In another day and age, perhaps in the near future, the alternate learning styles which students with learning abilities use successfully may be those styles most valued by society (West, 1991). Today, however, students with learning disabilities risk being stigmatized as lazy or mentally incompetent. It is still common to encounter people who do not believe learning disabilities exist. Because of these conditions, King (1994) advocates campus support groups for students with learning disabilities to help them cope with issues. A college student with a diagnosed learning disability described one reason problems sometimes occur between teachers and students:

> The turf wars between psychologists, educators and others over the very definition and testing for learning disabilities continue to create problems for LD students. The ambiguity in the definitions of what constitute learning disabilities make administrators and professors [question] whether learning disabilities exist at all. (King, 1994)

Learning disabilities are generally considered invisible. No physical characteristics serve as indicators; the disabilities manifest themselves in subtle ways. They may reveal themselves through differences in body position, personal space needs and awareness, and body movements. Anthropologist Edward T. Hall (1976) describes nonverbal communication in terms of cultural differences, but it may be a disability issue as well. In this monograph, Purcell's chapter on the social domain alludes to such issues. The specific impact of a learning disability on a given individual and the adaptations he or she requires can be determined only through careful diagnostic testing.

A student with a learning disability typically shows average or above average ability in carrying out most academic assignments. At the same time, performance in the specific area of the disability falls distinctly below the expectations unless the assignments have been effectively adapted. The key to academic success is to use the student's strongest learning mode for teaching and communication; ability becomes obvious when this mode is used.

Unfortunately, because stigma is attached to the disability, students who know they have learning disabilities sometimes avoid identifying themselves to an office for disabled student services, teachers, and others on campus; students with learning problems who have never been diagnosed may avoid testing because they fear being labeled. On any campus there almost certainly are many more students with learning disabilities than have registered with the office for disabled student services. Teachers who observe typical patterns should encourage the student to be tested.

Learning disabilities encompass a wide range of difficulties. At the most obvious level, one student may have great difficulty learning through the written or printed word, while another struggles to learn through the spoken word. A third may be unable to work math equations, and a fourth may have trouble with orientation in time or space. The type and degree of disability vary for individuals, and some have multiple learning disabilities.

The accommodations a student requires depend on the specifics of the disability. A student who has difficulty processing what he or she reads may listen to audio recordings; one who has difficulty processing what is heard may follow a lecture through a printed outline or text. Some successfully use the same software as students with low vision; for example, text enlargers and altered foreground and background colors on the monitor may make learning easier. Spell checkers and grammar checkers catch some disability-related mistakes. Students who have difficulty organizing their ideas and their lives benefit from outlining, calendar, and reminder programs; carefully planned study schedules can help a student focus.

Attention deficit disorder (ADD) is often considered a subset of learning disabilities. Two recent books describe ADD in teenagers and adults (Weiss, 1992; Quinn, 1994); Quinn's book is particularly useful because it deals specifically with issues facing high school and college students, and with the transition from high school to college.

Weiss (1992) describes what she says she is tempted to call the advantages of ADD:

> It's difficult to fool people with ADD. They look past surface appearances and facades to the core of people and issues and evaluate them with down-to-earth standards. They tend to be good networkers because they see so many relationships between people and things . . . they are able to put new projects together readily. They can cross disciplines or skill areas, drawing from what attracts their attention . . . . Their sometimes chaotic perception makes them originals, with a marvelous sense of humor . . . they see things the rest of us don't see . . . . Creative and spontaneous, these often-misunderstood folks may be one of the great unrecognized treasures of our land. (pp. 148-149)

At the same time, Weiss points out that "ADD shapes personality, torments its victims, and fragments relationships" (1992, p. 5). A student with ADD clearly does not perform at the level one would expect given his or her obvious abilities and degree of effort. Quinn (1994) identifies hyperactivity, sleep disorders, mental restlessness, distractibility, mood changes, impulsivity, attention problems, and disorganization as symptoms. She also describes some common learning accommodations for the students in college. Students with ADD have obvious difficulty with attending, focusing, and organizing, but the strengths which Weiss noted can support learning.

Large print books, visuals, and signage sometimes help focus attention. Captioned video reinforces the visual and auditory learning modes with the linguistic (reading) mode, while descriptive video reinforces the visual and auditory mode with the linguistic (aural) mode. Minimizing visual and auditory distraction in the classroom also supports learning. Many students with learning disabilities and/or ADD benefit from the use of universal symbols on signage and uncluttered aisles and walkways.

Adaptive technology similar to that for students with low vision or learning disabilities may be useful. Students who learn best through the auditory mode benefit from screen readers. Text enlargers help focus attention, especially if enlargement is combined with highlighting; displaying only a few words at a time on the screen removes distractions. Spell checkers, grammar checkers, outlining software, and calendar and reminder programs are also useful.

Both learning disabilities and attention deficit disorder sometimes accompany other disabilities such as cerebral palsy and traumatic brain injury. ADD often goes along with Tourette's syndrome.

Chronic Health Conditions, Seizures, and Psychiatric Disabilities

A study reported by HEATH (Disability status by sector, 1994) placed these disabilities in an "other" category. Unless a student is in crisis or the disability is not controlled by medication, neither the professor nor the office for disabled student services may be aware that he or she has a disability. Diabetes, cancer, heart disease, HIV/AIDS, respiratory problems, epilepsy, depression, and panic attacks can exist without visible signs. Sometimes, however, the disability or the side effects of medication create barriers to the full use of abilities; for example, some medications can cause double vision or make concentration difficult. Students may require accommodations similar to those for students with learning disabilities and ADD. Some students become fatigued easily; others have their studies interrupted by frequent hospital or home stays.

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In an ideal situation, all students with a chronic health condition would register with the office for disabled student services. Faculty members, notified of the required accommodations, would work with students to provide a barrier-free learning experience. More commonly, a faculty member suddenly encounters an extremely upset student, parent, or spouse who describes a crisis situation. The faculty member should consult with the office for disabled student services to evaluate the situation and suggest appropriate accommodations.

Orthopedic Disabilities

Students with disabilities that limit mobility and dexterity are generally highly visible; many use wheelchairs, braces, or crutches. Others walk with unusual gaits which call attention to the disability. Limited dexterity may become visible when hands and arms move in unusual ways, when an individual attempts to perform tasks which require different kinds of dexterity, or when he or she uses an adaptive device.

An individual who is perceived as "totally disabled" may actually do a great deal. The ability to breathe provides an opportunity to propel a motorized wheelchair with a puffer control, and the ability to use one's mouth and teeth or toes opens up many possibilities for writing, computing, and manipulating objects; the voice can communicate ideas and operate a computer. Beatrice Wright (1983) discusses how individuals can come to accept such alternate "tools" in lieu of hands, legs, arms, and feet. Students with orthopedic disabilities usually communicate through speech and written language. Unless there is an accompanying disability such as a traumatic brain injury, intellectual ability should not be affected.

Students who use wheelchairs or other mobility devices often feel the device frees them instead of limiting them, provided that campus facilities are barrier-free. During interviews with students who had quadriplegia, I discovered that I perceived them as more mobility-disabled than they did. All but one of those interviewed used a wheelchair. One (not the student who walked) even rated himself as having no difficulty with mobility. A recent Internet exchange about the appropriate use of language (specifically, the use of the phrase "wheelchair bound") generated the following comment:

> This phrase also annoys me. One way I try to correct it is to explain to people, "This wheelchair 'frees' me, it doesn't bind me. Without it I would be in bed or crawling on the ground like a lizard! So I'm glad I have it." This seems to create a vivid enough mental picture to get the point across. With apologies to lizard-lovers. (Kietzke, 1995)

Limited dexterity presents more difficulty. The students who perceived themselves as free to move around rated themselves similarly to me on their degree of difficulty with dexterity. The differences in perceiving mobility and dexterity problems may exist because society provides better accommodations for wheelchair accessibility; dexterity disabilities require more individualized accommodations.

In terms of campus accessibility, students with mobility and dexterity disabilities require ramps, automatic doors, levered water faucets, adjustable tables, wider doors, accessible parking spaces, and similar accommodations. They visit campus offices and attend plays and concerts; so offices, theaters, and concert halls must be accessible. Many are athletes; so weight rooms, swimming pools, and basketball courts must be available to them.

In the classroom, some students with disabilities are accompanied by personal aids, some use scribes to take notes or write dictated test answers, and some audio record lectures; most benefit from access to adaptive technology. Graphical User Interface access, a major barrier for students who are blind, can be highly beneficial for students whose dexterity is limited. With a mouse, a trackball, or a headstick and a single click, the student can enter a string of commands. Speech recognition/voice input software and hardware are becoming important for people who cannot use their hands easily. Touchpads, touch tablets, and enlarged keyboards are also used as input devices. Macros, which permit the student to tell the computer with a single command to carry out a series of commands, speed up the process, as does word prediction software, which anticipates what word the user wants to type based on the few letters which are keyed in.

Mobility and dexterity disabilities are sometimes, but not always, accompanied by other disabilities. Paralysis as a result of a spinal cord injury may go along with cognitive and perceptual disorders caused by traumatic brain injury; the orthopedic problems of cerebral palsy are often accompanied by learning disabilities and speech disorders. Although multiple disabilities are common, people should not assume that the presence of one disability indicates the presence of others.

Hearing Impairments

Hearing impairments have become more common in our noise-polluted society. Many students come to college with a degree of hearing loss significant enough to cause difficulty in class. Most of us take hearing for granted, believing that our most important sensory ability is vision. Helen Keller, who was in a position to know, said, "Blindness separates people from things; deafness separates them from other people" (Benderly, 1980, p. 267). In a society which emphasizes verbal communication, a person who cannot speak clearly, understand speech, or read and write easily in English faces a distinct disadvantage. At the same time, individuals who are deaf and use American Sign Language as their first language can learn techniques for interacting in a hearing society.

The term "hearing impairment" encompasses a wide range of disability. Some hear adequately with amplification and speak clearly enough to be understood, while others have no hearing and cannot make their thoughts known through speech. Along with the range of disability, a wide range of ability exists. In fact, many people who are prelingually deaf (that is, deaf from infancy) do not consider themselves disabled; their alternate methods of communication serve them well, and they do not understand society's emphasis on the need to hear. Individuals who are prelingually deaf and want to participate in a hearing society need to develop the ability to understand verbal language, spoken and written, and to learn to respond so that hearing people understand. Hearing people who want to interact with those who are deaf can learn to sign and use other types of communication.

By the time a student with profound hearing loss reaches college, he or she has developed a system of communication which supports learning. On most campuses, the aural/oral mode serves as a major vehicle for teaching and learning. The communication system used by each student who is deaf must be provided so that he or she can take full advantage of the college experience. Some combination of amplification, speech reading (lip reading), visual reinforcement, altered seating arrangements, tactile information, and manual communication may provide adequate opportunity for communication through speech. Captioned films and videos can present information. The degree of hearing loss and the individual's age when hearing loss occurred are critical points to consider in understanding the needs of students.

The Issue of Age

Even within a group of students classified as deaf, great differences exist in the need for accommodation. Some people who have been deaf since birth have great difficulty with written and spoken language. Unlike a hearing person, this individual did not begin building a store of sounds and vocabulary at birth or earlier; such storing creates a necessary basis for speech and reading. Deafness is difficult to diagnose in early childhood, so a significant delay in discovering the disability may have occurred. The individual may have lagged behind his or her age cohort in learning because the store of verbal language was insufficient, because he or she was delayed in communicating with hearing parents and siblings, and because he or she could not speak and hear in the expected way.

Research confirms that such delayed communication is not evidence of a lack of ability. When deaf babies are born to parents who are deaf and use manual communication, the babies sign (that is, communicate manually) earlier than hearing babies speak (Volterra, 1983). People who learn American Sign Language as their first language have difficulty with reading and writing because English is their second language.

Children or adults who depended on speech and hearing to communicate before they became deaf are in a different position from those who are prelingually deaf. The former are said to be "late deafened"; they are oriented toward communication through hearing, established relationships with other people by using verbal language (spoken and written), were educated using verbal communication, and commonly selected careers which require extensive aural/oral communication. Late deafness mandates major life changes; many who are late deafened have great difficulty learning to sign or speech read successfully.

Degree of Hearing Loss

Deafness (that is, the inability to hear well enough to understand speech even with amplification) mandates a visual or tactile focus to communication. An individual who is hard-of-hearing (that is, who can hear well enough to understand some speech) can supplement vision with residual hearing. People with either degree of loss may learn to speech read to some extent, read manual language signed by someone else, or read print or handwriting.

To send messages, an individual who is deaf may sign, write, or even speak, although the speech may be difficult to understand because words are enunciated based on what is heard. In a classroom setting, an interpreter for the deaf may translate the words spoken by the teacher and classmates into sign language and the student's signed responses into speech. A student who is deaf may need both a notetaker and an interpreter because of the difficulty of reading sign language and taking notes at the same time. Because people who are deaf tend to be highly visual, the Graphical User Interface can be a useful computer adaptation. Spell checkers and grammar checkers may also be helpful, especially if American Sign Language is the first language. Speech synthesizers can communicate thoughts if the individual's speech is difficult to understand; an example of such a use of speech synthesizers was described earlier in this chapter.

If an individual is hard of hearing rather than deaf, the problems are different but equally complex. Hearing loss can involve the intensity (loudness) of sound, but, more commonly, an individual has difficulty hearing sounds at certain frequencies, especially high frequencies. Most people who are hard of hearing detect parts of words but miss high-frequency sounds. Words spoken to them sound blurred, and talking loudly does not help them understand; the high-frequency sounds still are not heard. It is more useful to face the person so that he or she can speech read and to repeat the message using different words which may be more easily understood. Speech reading is easier if the speaker's face, lips, and throat are clearly visible; beards interfere with speech reading, while lipstick makes it easier.

Depending on the type and extent of the hearing loss, students who are hard of hearing may wear hearing aids or use other adaptive devices including amplifiers. Some speech read, although even with training only about 50% of English words can be read on the lips. Many individuals who are hard of hearing use speaking and writing to communicate ideas.

Multisensory Disabilities

Disability Status by Sector (1994) does not include multisensory disabilities. Deaf-blindness is described here because the needs of students with this type of loss are highly complex and often misunderstood. Richelle Hammett (1994) writes about working with college students who are deaf-blind. She includes a table of "Strategies for Students to Try" (p. 3). Most students who are categorized as deaf-blind have some degree of both residual hearing and residual vision, but they have profound losses of both senses. They generally come to college having learned to fully utilize their residual abilities. The compensations they use depend to a large extent on which sense was lost first, the age at which the losses occurred, and the degree of loss of each sense. Their communication modes may include speech and amplified hearing, speech reading, sign language (sometimes with the signing hand placed on the palm of the other hand), large print, and braille.

We must distinguish these students from students who have a single sensory disability. They are likely to have more difficulty understanding and learning because they receive defective messages from both vision and hearing. People who are blind use hearing to check understanding, while people who are deaf use vision. Those with serious losses in both senses, however, depend heavily on touch, taste, and smell to confirm understanding. If they sit very close to a speaker and use amplification, they may be able to use residual vision to speech read and the amplification to understand some words. Any of the previously discussed adaptive technology can potentially support their learning, depending on the specifics of the disability. If instruction can include tactile information, then students can use yet another way to learn.

Speech Disorders

Speech disorders typically accompany other disabilities such as cerebral palsy, cleft palate, or deafness, but they can occur alone. Society tends to equate the ability to speak clearly with intelligence, but the two factors have no correlation; intellectual ability and the abilities to hear, see, and perceive are likely to be intact in an individual with a speech disorder. Some students with cerebral palsy, however, have learning disabilities. In cerebral palsy, difficulty in speaking probably results from damage to a particular area of the brain; cleft palate, on the other hand, derives from inadequately developed organs of speech. Deafness emerges from the inability to pronounce words because speech sounds are not accurately monitored.

With appropriate accommodations for any other disabilities, students with speech disabilities learn in the classroom the same way other students do. They may need assistance in asking or answering questions and in making presentations, and they may take extra time in communicating. Other typical accommodations include writing, sign language, and cuing (a type of sign language). Adaptive communication devices are often complex computer systems; for instance, students can make presentations through an interpreter or a speech synthesizer which produce sounds similar to the human voice and may allow individuals to select among a number of "voices."

Appearance

Disability Status by Sector (1994) makes no mention of appearance as a disability. Theoretically, it should be neither an ability nor a disability, yet for many students it is a major disability, perhaps their only disability. A lurching gait, uncontrollable grimacing, and facial scars have nothing to do with the ability to learn. Appearance is a disability only because such value is placed on it. A student for whom appearance is the only disability needs no accommodation except an awareness that he or she is coping with stigma, an issue which Glimps and Davis discuss in more detail in Chapter 4 of this monograph.

Cutting Across Disability Lines

Service Animals

The concept of "alternate tools" was mentioned earlier (Wright, 1983). Service animals are a type of alternate tool; Seeing Eye dogs are the most familiar. Service animals, especially dogs, are trained to work with people who have mobility and/or dexterity disabilities, hearing impairment, or epilepsy. They can be trained to retrieve, lift, or carry; to alert their owner to specific sounds such as an alarm; or to provide advance warning of a seizure.

Service animals can legally accompany their owners wherever they go just as a human attendant would. They are working animals and should not be distracted or petted unless the owner has given permission.

Adaptive Technology

Applications of adaptive technology are discussed throughout this chapter, but some additional considerations apply for all people with disabilities. For example, an appropriately adapted computer and modem enable a student to work from home or from any accessible site. Most of us find this a convenience, but for students with disabilities it is more. Many of them have limited access to transportation, and many need to conserve time and energy. Remote access to the library's OPAC (Online Public Access Catalog), the Internet, and other databases may mean the difference between success and failure for some of them.

Furthermore, a student's success is supported if basic information about the location of classrooms, labs, libraries, administrative offices, and other facilities is available in alternate formats (e.g., large print and braille) and if it is on the campus electronic network. Information about hours, policies, and restrictions should be similarly available. A guided tour of the campus which identifies accessible parking and routes, potential obstacles, and emergency exits can help orient a student to the campus. Campus maps which identify the same kinds of things pointed out on the tour must be provided in accessible formats. All campus staff, including laboratory and teaching assistants, should be prepared to assist a student with typical tasks requiring vision, hearing, dexterity or some other ability not available to the student (Coombs & Banks, 1994). Project EASI, listed in Appendix C, is an excellent source of detailed, up-to-date information about adaptive technology in higher education.

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CHAPTER THREE

The Human Factor

William H. Jones

Recently, as a community college instructor on sabbatical, I visited ten community colleges, a private college, a private residential school for people with severe learning disabilities, a state college, and a state university, presenting myself to Disabled Student Programs and Services (DSP&S) staff as a reentry student. I told them that I felt I had a learning disability and wanted to be evaluated and get information about learning disabilities.

I used this methodology to gain information which could improve the performance and service of the program I coordinate at Monterey Peninsula College; I was also interested in getting information to elevate the standards of service for atypical students in any community college setting. Questions, concerns, and fears of reentry students who have come through the Learning Skills Program at Monterey Peninsula College were used for information gathering.

I also chose this scenario because our program is getting more referrals of reentry students. Counseling groups, parent groups, self-help organizations, and media coverage of learning problems and individuals who have benefited from help have been generating awareness. The increased awareness makes necessary more effective services to reentry students with disabilities.

This research project addressed the following:

1. Who are the key personnel the student will meet in his/her first contact with the program? What are the student's first impressions of the college and program likely to be?

2. How easy is it to get information and to register for testing?

3. What factors motivate adults with learning disabilities to seek help? How are they likely to react to the help offered or the lack of response at a college?

4. Does the program value learning? Are people being tested just to be tested? Does the program promote the concept of "learning how to learn"?

5. What qualities make a good DSP&S and Learning Skills/Disability program?

6. How does the visited program compare to the program in which I work? What do we do well in our program? What areas can we improve?

Overall Impressions

The research project started out as an impromptu part of my sabbatical but turned into a significant part of my leave. At a couple of campuses, my head and heart were overjoyed at the pride, enthusiasm, and productivity of the people and programs. On the other hand, on several campuses, I saw mental barriers, absurd bureaucratic procedures, a lack of interest, poor attitudes, and dishonesty.

After talking to students and staff at the colleges where I had a good experience, I got the impression that specialized counselors in both the Learning Skills area and the Equal Opportunities Programs and Services (EOPS) and Veterans programs were helpful and took a personal interest in students. They were more sympathetic than "regular academic counselors."

At all of the colleges, "regular counseling services" were held in low regard. I heard this opinion from students, who often said they "would not ever return to a regular counselor," from Disabled Student Programs and Services Programs (DSP&S) staff who got "unusual referrals or none at all," and from colleagues at various colleges who were aware of my research.

Student Self-Responsibility—A Sidelight

My project looked at the emotional and behavioral makeup of adults with dyslexia or learning disabilities. This topic in itself could provide enough work for several years of research. I believe, as a person with dyslexia, that adults with learning disabilities have more than the usual number of issues and concerns about self-esteem and accurate communication; they tend to have high expectations of themselves and others and need immediate action and reassurance when they ask for help. They need acknowledgment that they have worth.

Adults with learning disabilities can act responsibly and assertively in areas where they have confidence. Unfortunately, most adults with learning disabilities have had strong negative experiences in school settings; just setting foot on a college campus can take great courage. Students who have already attended classes have gained the confidence and assertiveness they need to wade through the "maze" of educational processes. If they have disabilities, they have already learned to cope with untrained and unresponsive counselors; but the first visit to a college campus is a step into the unknown, whether the student is "a community referral" or a first-time student. Finally, we should remember that most adults with dyslexia or other learning disabilities have average or above average intelligence; their strengths, abilities, and talents may not be adequately measured in traditional educational settings. I personally believe that, as awareness of different learning styles, productivity evaluation, teaching methods, and computer technology grows, the strengths and abilities of successful learners with dyslexia will be used as guidelines for the instruction of all students.

Some Questions and Answers

1. Which program personnel are the student's first contacts?

The first is usually a secretary or a student peer counselor or paraprofessional who may have gone through the testing process himself or herself. The secretary is the key person. Four of the secretaries in smaller colleges were helpful, kind, cheerful, and honest about what they could do. They clearly liked their jobs and received support from other staff members. For example, an aide at one college said, "Go take a quick break. I'll watch the desk and phone for you. I need a break from the copier."

A suggestion.

The secretary can make or break your program. Secretaries need to be trained in stress management and in working with atypical students.

2. How easy is it to get information and register for testing?

At some colleges, I could have begun testing the next day; the offices had wonderful folders and handouts about testing and the program itself. One school displayed a student success board with student comments about how helpful the testing was.

Unfortunately, in other schools I was sent through a "rat maze to hell." I had to go to the counseling office, usually on the far side of campus, to get the testing schedule and other paperwork.

A suggestion.

Make service to the student first priority; buy into students as they buy into you. Explain the process to them or provide a treasure map of steps to follow. Just because a person does not know the school does not mean he or she is dumb!

3. What factors motivate adults with learning disabilities to seek help? How do they react to the help given or to the lack of response?

Reentry adults with learning disabilities are influenced by a wide variety of factors. Most have accepted the fact that something is wrong and know they need help in learning how to learn; they typically have a great deal of confidence in certain areas of their lives and very little in others. They understand that the problem does not lie with the other person all the time and accept who they are. They desire:

- to change jobs and improve skills so they can use the hidden knowledge they know they have;
- to prove to themselves that they can learn;
- to be understood;
- to use their strengths and weaknesses and improve themselves in a certain area;
- to change themselves rather than their environment;
- to receive answers **immediately** in layperson's talk instead of educational jargon.

If adults who are learning disabled do not get the help they want, they often return to previous patterns and continue to view education negatively. Staff of community college DSP&S programs, and more specifically the Learning Skills/Disability Programs, need to realize that potential students with "hidden disabilities" are taking a huge risk in revealing that they have a problem. If they feel ignored or rebuffed, they are likely to give up the process, abandoning hope of getting the help they need.

An aside.

The college's failure to acknowledge the student as a unique entity in need of support is a loss for both college and student; it is also bad public relations.

4. What qualities make a high-quality DSP&S and learning skills (LD) program?

Each college has its own set of strengths and weaknesses. I visited each institution for a day, representing myself as a potential student who wanted help on this, his first and perhaps only, visit to the campus. I looked for attributes students had described as beneficial in my discussions with them. In some cases, what students wanted was the equivalent of a fast-food restaurant, with quick, friendly service at low cost. The students noted the following positive attributes of a program.

- Their questions were answered, not delayed, or they were told straightforwardly, "I don't know."
- There was a connection with a "live person" who made them aware of the procedures and time line for seeing a specialist.
- They were recognized as individuals who were seeking help in a new and strange environment.
- They walked out with an appointment within 5-10 working days.
- They were not shuffled off to registration, counseling, or some other area.

Impressions.

In general, I found colleges with smaller enrollment more personalized in their service. Staff members seemed more interested in working with the students and facilitating the assessment than in throwing up roadblocks to student concerns and needs; I found my questions were answered directly and honestly. For example, the secretary at a large college said the testing would take only one hour. I asked, "Is that all?" "That's what it takes most normal students," she replied. When I requested an appointment with a counselor, she went to get an appointment book and returned six minutes and 40 seconds later with a cup of coffee. She helped another person before she remembered me.

At another school, the secretary was much more considerate. She told me that she was one of the "world's best secretaries," yet, she said, she did not have the answers to all of my questions. This was an approach I bought into; she was honest and direct about what she did and did not know.

The institutions with "great qualities" were those where people knew their jobs and their strengths and limitations. Two colleges employed paraprofessionals or peer counselors who were helpful and praised the work done in the program. These people reinforced the idea that contact with a knowledgeable person is important. At three colleges, I was recognized as a potential student. If I had wanted it, I could have made an appointment for counseling within three days. This prompt attention made me feel connected with the program.

At three other colleges, I felt almost reprimanded. I was directed to the registration and counseling office for registration. There I could make an appointment with the DSP&S office. Somewhere down the line, the DSP&S office would call me. Alternately, I could make an appointment about three to four weeks in the future to get information that was important to me right now.

An alert.

All DSP&S programs should work with the students directly, NOT REFER THEM TO REGULAR COUNSELING. Adults reentering college with learning disabilities do not like being passed down the line; they want to work directly with someone who is aware of their concerns, not someone who creates new problems. I discussed the issue with three DSP&S colleagues who knew of my research and seven instructors at three colleges. General counselors were typically unaware of the needs and concerns of a specialized population and of the support programs available at their college. Some printable comments about general counseling follow:

> "Too passive; I was looking for answers about classes, and I got more questions."
>
> "Students are placed in my classes, and they still aren't sure they want to get into a medical field. Anatomy may not be the best class to use as a sampler."
>
> "The EOPS counselor really took an interest in me and my reentry to college; I felt the counselors [regular] in here couldn't care less about me and why I am here."
>
> "I use the specialists [LD specialist/counselor] in the program because they know me."
>
> "Our program is starting to have a higher dropout rate, and I believe that it is because the students are not aware of the time, program course work, and the options in our program. Students need to demand more of the counselors."

Some Thoughts

I noticed that the effective/efficient college DSP&S showed pride in the program they offered, gave frequent consideration to what they could improve, and put the student first in all matters. Many dyslexic people are experiential multisensory learners who need a variety of devices and materials to understand the task at hand.

One school really stands out negatively. The term "disability" was heavily emphasized. "LDness" is invisible; we all want to downplay what is difficult for us. I became alienated from the DSP&S secretary and a general counselor; I felt uncomfortable at being labeled by people who did not know me. These interactions would greatly affect my learning if I were a student at this college.

Conclusions

The following suggestions can assist any DSP&S program in maintaining high standards and morale. Since budget cuts and uncertainty seem a part of our future, we need all the ideas we can get.

1. Train all secretaries in DSP&S programs. Such training could be carried out through special sections in professional associations or at a workshop, or by developing videos of excellent secretaries and their insights and ideas.

2. Secretaries and other staff members should be trained to identify, "buy into," and recognize the student and his or her concern in the first five minutes.

3. The first time a student comes to the office, make an appointment for him or her to meet with a person trained in learning disabilities within the next 10 days.

4. Maintain a bulletin board with pictures of all staff members in the office so that the student knows whom he or she will be seeing.

5. Conduct special training for general counselors and secretaries who may work with students who have learning disabilities. Provide education and awareness about the program to other clerical people on campus. Most counseling departments have clerical people to act as buffers, so it is important that they are aware of your location and what services you provide. Avoid referring potential students to general counseling until they have a semester or more experience at the college, unless you are confident that students will find a good reception there.

6. If a student only wants testing at the first meeting, don't hassle him or her about going through regular registration and counseling. Registration can take place at a later meeting after the student has developed an interest in the program and knows that needs are starting to be met.

7. Be honest. If you can't help, don't! Don't invent the "High Tech Center" you don't have.

8. Organize the office to reflect a professional model with a waiting area and reading material. Communicate through your behavior that the person waiting is important.

9. Don't "bad mouth" other colleges.

10. Hold weekly meetings (30 min.) with the secretary and other staff to discuss problems, concerns, student issues, referrals to other programs, and procedural changes. Keep to the agenda.

11. On an individual basis, let the potential student take home some of the paperwork (e.g., intake forms) to complete. Many people with dyslexia take home two applications, one as a draft and the other to hand in.

12. Utilize, when appropriate, student peers or paraprofessionals to welcome and help in intake. They can be the best salespeople for the program.

13. Use simple sign-in forms or first-contact forms so that there is a record of the contact, and so that a staff person can follow up with a student who has missed appointments or who has fallen through the cracks.

14. The specialist in services for students with learning disabilities should attend general counseling staff meetings.

Some Afterthoughts

This project has provided me with many things to think about. For one thing, our programs do not exist without students: they are our most important product. They sell our classes, programs, and services.

I learned a great deal from colleges which do things differently from my program, and I hope to use some of their ideas and approaches. I also saw pitfalls to watch for in my program. The college programs which appeared to have problems were the ones which seemed to have forgotten that their mission is to help students.

CHAPTER FOUR

Multiple Stigma or Multiple Opportunity?

New Students with Disabilities from Diverse Cultural Backgrounds

Blanche Glimps
and Karen F. Davis

The United States is becoming increasingly ethnically diverse, especially among young people (Hodgkinson, 1993). Between 1975 and 1991, the proportion of European-American students at the college level declined (Snyder & Frombolati, 1993), and in the future, even fewer students who trace their ancestry to Europe alone are expected to go to college. More and more students from traditionally underserved populations will enroll.

The number of college students who report disabilities is on the rise as well, either because more people with disabilities are completing secondary education and enrolling in college, or because more conditions are being recognized as disabilities (e.g., learning disabilities and attention deficit disorder). A study by the American Council on Education found that the number of first-year college students who report having a disability tripled from 1978 to 1991 (Henderson, 1992). In 1993, GED testing accommodations for candidates with documented disabilities increased 26% over 1992; in the same year, there was a 58% increase in accommodation requests for learning disabilities (American Council on Education, 1993). Moreover, with increasing age comes greater likelihood of having a disability (Bureau of the Census, 1994). Colleges recruiting nontraditional-age students can therefore expect a higher percentage of students with disabilities.

More and more, college students will be members of ethnic groups which have been historically disenfranchised in this nation; at the same time, increasing numbers of students will be identified as having one or more disabilities. Often, the two groups will overlap. In an extensive 1986 study by the U. S. Department of Education, 10.5 % of all college students reported a disability (Snyder & Hoffman, 1992). Of those reporting a disability, 2% were Native Americans; 4% Asian Americans; 8% non-Hispanic African Americans; 8% Hispanic; and 79% non-Hispanic European Americans (Greene & Zimbler, 1987). To serve these students well, we need to hear their voices, understand their experiences in college, and plan to welcome them in an inclusive way, respecting "the notion of difference as part of a common struggle to extend the quality of public life" (Giroux, 1992, p. 29).

Clearly, we need to confront the issue of multiple stigma (i.e., two or more traits in one person, any one of which can limit opportunities and life chances within the context of society's cultural ideology and relationships). Goffman (1963) introduced the term "stigma" into sociological discourse, noting that stigmata ("deeply discrediting" attributes) inhere not in persons but in relationships. "It should be seen that a language of relationships, not attributes, is really needed. An attribute that stigmatizes one type of possessor can confirm the usualness of another, and therefore is neither creditable nor discreditable as a thing in itself" (Goffman, 1963, p. 3). That stigma and usualness are socioculturally defined and therefore changeable qualities (Cuellar & Arnold, 1988) is supported by recent research (Amsel & Fichten, 1988; Berry & Jones, 1991). In more recent social theory, the terms "peripheral," "marginal," "alienation," "ghettoization," "borders," "exotic," and "other," are used to demarcate the edges that Goffman called "usualness" and "stigma" (Frable, 1993; Giroux, 1992; Haig-Brown, 1990; Madrid, 1992; Marrouchi, 1991; Wetherall, 1989).

Stigmatization imputes moral offense to the stigmatized so that they are viewed as authors of their own stigmata: the "blame the victim" model of social control. "By definition, of course," Goffman (1963) notes, "we believe the person with a stigma is not quite human. On this assumption we exercise varieties of discrimination, through which we effectively, if often unthinkingly, reduce his life chances" (p. 5). Stigmatization positions people with disabilities as "deviants from the institutional norms" who commit an "offense against the divine order of the cosmos, and against the divinely established nature" of humanity (Berger & Luckman, 1966, pp. 89-90; Longmore, 1993). Based on this world view, we privilege certain status groups with the authority to dominate, exploit, discriminate against, or neglect the stigmatized. Stigma itself, Page (1984) notes, "can be regarded as a major form of social control" (p. 146). Goffman noted that a mild physical disability might not be socially recognized as a disability and thus would not be stigmatizing, yet the disability's physical effects still might interfere with the person's life chances. Wallace and Wallace (1985) refer to this status as "passing."

Goffman (1963) delineates three distinct forms of social stigma: physical deformities; behaviors imputed to character disorders (e.g., addiction or lesbianism); and ethnic stigma. Students with disabilities from traditionally underserved ethnic groups can thus be viewed as having multiple stigmata of different types, with different implications for outcomes in social relations. For example, learning disabilities are now regarded as physically based rather than the result of a "feeble" mind or academic "laziness." This perspective shifts the stigma from Goffman's second category (moral character) to the first (physical disability). Similarly, the civil rights movement has sought to shift the burden of responsibility and liability for ethnic stigma from the stigmatized to society at large—in particular to legislative and judicial bodies, institutions, and corporations. This shift officially recognizes that stigma lies in the social relation and not in the person stigmatized. Since the 1850s, the disability rights movement has recognized that disability is a civil rights issue—as does Section 504 of 1973 and the Americans with Disabilities Act of 1990—stating that the stigma of disability, like ethnic stigma, inheres in society and not in the individual (Tusler, 1992).

Referring to people who are stigmatized in one or more category, some researchers use terms such as "double whammy" and suggest that human experience is additive or compounded (e.g., Alston & McCowan, 1994; Ball-Brown & Frank, 1993; Chinery-Hesse, 1991; Deegan, 1981; Holcomb, 1984; Marshall, Martin, Thomason, & Johnson, 1991; Morehouse, 1994; Saviola, 1981). Others challenge the concept of "double oppression," suggesting instead that what actually occurs is "a process of simultaneous oppression" (Anderson & Collins, 1992a, p. xii; Stuart, 1992, p. 179).

The few studies that purport to measure both disability factors and ethnicity factors (e.g., Thomas & Lee, 1990; Zetlin, 1993) do not analytically separate these factors. Each factor is discussed individually, without clarifying whether the disability experience varies between ethnic groups. Katz (1981) has studied and compared both ethnic and disability stigmata, but not in combination. Two studies (Jenkins & Amos, 1983; Jenkins, Amos, & Graham, 1988) specifically confront the issue of whether "multiple stigma" exist experientially (i.e., whether the Black experience of disability varies from that of Whites, and whether the experience of Blacks with disabilities differs from that of Blacks without disabilities). In both cases, the authors conclude that their students "do not view their worlds in significantly different ways" (Jenkins, Amos, & Graham, 1988, p. 76).

This is a crucial question for educators working with students with two or more stigmatized traits. Even if we can separate each trait for purposes of scholarly analysis, we may not be using the best approach for student development. We need to be wary of translating abstract analytical categories into practice, especially when the significance of these categories for human experience has not been confirmed. Rather, we might begin by asking students to tell us their experiences, especially about those initiatory or transitional experiences during which identity is particularly vulnerable (Van Gennep, 1960; Gluckman, 1962; Tinto, 1987; Turner, 1969).

In Summer 1994, the authors convened a focus group to increase understanding of the experiences of college students with disabilities from underserved ethnic groups in order to "hear the voices of those students who have been traditionally silenced" (Giroux, 1992, p. 33). We suspected we might "see the world differently if we acknowledged and valued the experiences and thoughts of those who have been excluded" (Anderson & Collins, 1992b, p. 1). We invited participants from an earlier meeting of college students with disabilities as well as other students who attended local institutions.

Seven students participated in the two-hour focus group. The group included an Arab American, a European American, and five African Americans; one was male, and the rest were female. All were returning adults who were exhibiting a variety of disabilities: mobility impairment resulting from an automobile accident, partial paralysis and skill loss resulting from stroke, blindness, severe visual disability, attention deficit disorder, learning disability, and chronic fatigue resulting from lupus. We asked the students to reflect on their earliest memories as college students within a context of ethnic diversity.

Several themes punctuated their discussion. The first was the impact of the college experience on their awareness of their disabilities. When the disability had been confirmed before they went to college, they exaggerated its magnitude in their minds and experienced increased anxieties when they went to college. In other cases, the disability was suspected only after the student began interacting in a higher education setting. One doctor, for example, diagnosed a hidden stroke only after the student reported difficulty in completing college assignments. Clearly, it is important to be alert for possible hidden disabilities that may affect academic work and to be sensitive to emotional responses students may have in the new college environment.

Several students passionately expressed a second theme: frustration with colleges which fail to provide appropriate accommodations or to encourage and develop student potential for professional contributions. In one case, an instructor who was also department head refused to consider providing tactile or auditory alternatives so that a student who was blind could complete a required biology course. Although she was granted a waiver from taking the course, she deeply regretted missing the opportunity to demonstrate her competence and to pave the path for other students with disabilities. Another student hid her disability after an instructor stated that no one with a disability was wanted in her chosen career field. A third student mentioned a friend who was told by a professional rehabilitation counselor, "I don't even know why you're going to school. Who's going to hire you?"

A third recurring theme involved naming specific desirable accommodations that administrators or instructors could provide, including: assistance with registration and applying for financial aid, large-print class handouts, leaving writing on the chalkboard for students to copy after class, refraining from talking while writing on the chalkboard, taped textbooks, transcription of class notes from audio tape, extended time for testing, alternative testing modes, and individual meetings with instructors to monitor the student's understanding of class material.

A final theme was the failure of the students to experience added stigma based on ethnicity. One student said, "You know, we always focus on color, but when you have a disability, that's not even an issue. They don't say 'that Black blind girl' but 'that blind woman,' and that's the bottom line." A second student commented, "They don't look at your background or anything. You are just disabled, you know, that's it!" One student tearfully recounted her experiences with taunting and exclusion in high school and college. Was this based on her ethnicity, we asked, or her disability? She said she didn't know; she only knew that she was considered different enough to be excluded. These voices provide insight on the unitary nature of experience.

Two students echoed Goffman's (1963) argument that stigma does not inhere in the stigmatized person but rather in the relationship and in the society as a whole. One gave an impressive commentary on learning to respond to discrimination: "I don't have ethnic problems, because I *know* who I am." A second student reminded us that stigmatizing occurs within a dyadic relationship; why would we *only* ask for student perceptions of discrimination?

Given what the students told us, we all need to examine closely our ideas about student programs. The authors propose a four-part approach: (1) individualized welcoming; (2) community building; (3) building leadership skills for self-advocacy and activism; and (4) student-centered learning approaches.

Individualized Welcoming

Current sociological wisdom about "multiple" statuses suggests that separate programs should be designed for each stigmatized status group or that staff members of student programs should present the same combination of statuses or stigmata as the clients. Administrators are likely to be frustrated by the lack of resources to establish a multiplicity of new offices, resource centers, and staff positions (Alston & McCowan, 1994). Even with limitless resources, however, the question remains whether separate programming might further stigmatize students rather than assist them. One university administrator moved an honors program into the same building with a developmental program so that students entering the building would not be labelled "stupid."

Creating a separate program for each type of stigma compartmentalizes responsibility for meeting and working with students. Understanding and addressing stigmatization is not an issue exclusively for people with disabilities, or women, or African Americans, Latinas, or Native Americans. Stigma is a human relationship and academic concern which needs to be confronted and negotiated by everyone (Marshall et al., 1991).

Finally, how many different offices, clubs, and programs can one student report to—especially if he or she works full time, manages a household, and/or has a disabling condition? Can we not meet students' needs without requiring them to attend sessions at many different campus offices, open most commonly when students are at work? Such requirements are not welcoming, especially if Disabilities Program staff members are insensitive to people of color or the African-American Center is inaccessible (Backman, 1994; Senior, 1994).

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We must not ignore the experiences of individual students. We must learn to view students not as amalgams of multiple statuses, but as unique people, with diverse life experiences, complex demands on their time and attention, burdens specific to their life histories, and varying needs related to their academic careers.

From this perspective, we can assure that all brochures, catalogs, open houses, admissions forms, orientation programs, pre-enrollment testing, and other rituals are fully accessible and welcoming for *all*. Committees of students representing different conditions, statuses, needs, and experiences can review existing programming and make helpful suggestions for change. Early in their college careers, each student can be assigned an advisor, counselor, or mentor as a guide to offices, programs, or services that meet specific individual needs and schedules. The mentor might simply listen to the student's stories and concerns or make appropriate suggestions for child care, scheduling, or a quiet place to study. This guidance is important because many aspects of student lives are not planned and managed by the institution. Friends, neighbors, other students, and even strangers add to student experience, positively and negatively. Assuring each student individual attention recognizes the impossibility of creating one planned, managed experience for all students.

Building Community

At the same time, we cannot deny the importance of students uniting to define common experiences. If anything, the primary purpose of education is to define one's self and one's roles in society and to renegotiate social and cultural relations through shared histories and experiences. Berger and Luckman (1966) state that without such group redefinition, an individual has "no defense against the stigmatic identity assigned to him [sic]" (p. 152).

People with attributes stigmatized by the wider society form smaller social groups and networks to amplify or create their own cultural ideas, ideals, histories, values, beliefs, and symbols (Turner, 1969). These groups can help students bypass or remove obstacles they encounter, building a sense of identity, pride, commitment, and power. The politics of social change—what Giroux (1992) refers to as cultural politics or the politics of identity and community—emerges from these groups. It "stems from the experience of shared oppression, anger, and from the determination to express to the non-disabled world those aspects of the disabled experience that are both affirmative, and counter-intuitive for nondisabled people" (Robertson, 1994, p. 6). It is our responsibility to help students unite, not around predetermined status categories but around common experiences and concerns (Jordan, 1992). These small communities generate the energy required to work for social change.

Building Leadership Skills

Building community is a primary method for improving leadership skills. "A strong disability culture provides a base from which the socio-political view of disability can be further developed and extended to the general public" (Robertson, 1994, p. 6). Competencies in self-advocacy are especially important since the Americans with Disabilities Act (ADA) assigns students the responsibility for initiating requests for services. We may need to empower them by teaching them skills in critical analysis, questioning, and challenging the *status quo*. Giroux (1992) defines student empowerment as "the ability to think and act critically," to call into question existing social forms (p. 11). For Brown, Clopton, and Tusler (1991), the educational professional becomes "a facilitator who shares knowledge, control and decision making skills with the students. The students are supported in gaining the skills to become their own advocates . . . to obtain services and accommodations" (p. 266).

Student-Centered Learning Approaches

At all levels of the institution, student-centered learning involves recognizing the importance of individual and culture differences; assessing cross-cultural relations; maintaining vigilance for the dynamics of interpersonal and intercultural conflicts; expanding cultural knowledge; and adapting services to the needs of a wide variety of students.

Above all, student-centered learning implies a focus on specific student needs that may affect academic performance, which is, after all, the primary concern of educational institutions. Making a commitment to educate students with disabilities, for example, may require us to redefine what we mean by work, assessment, evaluation, and grading—in other words, what we mean by teaching and learning. Students with disabilities proclaim, by their very presence, that they are intellectually capable of completing university work yet unable to complete that work in a traditional manner. Their presence stretches our tolerance for difference. Once admitted, we assume students have a relatively equal opportunity to succeed on each assignment. Is this true? How do we define "equal opportunity" in the face of disabilities? These issues need to be addressed by academic departments and committees so that individual faculty are not isolated in making pedagogical decisions.

Confronting difference will not only change our pedagogical styles; Hill (1991) notes that "meaningful multi-culturalism . . . transforms the curriculum" (p. 45). Student-centered learning is inclusive and intercultural; it builds bridges; it is relevant and meaningful. It is transformational, using information not for its own sake but for personal and social awareness, for argument and persuasion "for the sake of social change" (Kochman, 1981, p. 3). Carroll (1987) speaks of "recreating what I am" through cross-cultural analysis (p. 126). For Giroux (1992), "border pedagogy" means that we listen to new voices. "A transformative curriculum," Banks suggests, will "help students to know, to care, and to act in ways that will develop and foster a democratic and just society in which all groups experience cultural democracy and cultural empowerment" (1994, p. 26).

As faculty and staff, we need to confront our own interpersonal issues related to the stigmatizing of students. Creating a fully integrated college community means that we intimately involve ourselves in recognizing and disrupting the stigmatizing process. Sometimes confronting stigma is as simple as recognizing the implications of the language we choose in teaching or in writing (Kailes, 1985; Maggio, 1988; Mauro, 1994; Miller & Swift, 1980; Senior, 1994). Sometimes stigmatization creates serious obstacles to cross-cultural communication (Kochman, 1981).

Finally, faculty and staff may need to act as advocates for students with disabilities in interactions with other faculty, staff, and administrators. To do so may require more humility than many of us are accustomed to displaying with students. We may even find ourselves learning from students, who may know better than we do what will help them learn. Creating a truly welcoming campus society is not simply a matter of creating another program, hiring another staff member, or printing a new brochure; it calls for rethinking organizational structures in complex academic bureaucracies where distribution of resources is a highly charged political issue; it demands sensitive social engineering and rebuilding curricula. Finally, it requires changes, great and small, in all of us.

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CHAPTER FIVE

Students With Learning Disabilities and The Social Domain

Nancy Mari Purcell

Thirty percent of all children in the United States who receive special education services have learning disabilities, and an estimated five to ten million U. S. adults experience them. Despite these figures, however, the general public knows very little about learning disabilities, and much of what they know is misinformation or misconception (Schulman, 1986). Considerable evidence shows that people with learning disabilities are at risk for problems in the social domain (S[illegible]afford, 1993; Stone & LaGreca, 1990); they tend to feel worse about themselves, display inappropriate social skills, and elicit more negative evaluations from peers, teachers, parents, and even strangers, than their classmates and peers without disabilities (Ritter, 1989; Stiliades & Wilner, 1989). A difficulty with learning disabilities is that they have no obvious outward signs. This is a mixed blessing for those who have learning disabilities. Parents, coaches, relatives, neighbors, teachers, and employers who might be patient, warm, and caring with an individual who was blind, deaf, or in a wheelchair sometimes have difficulty understanding how an individual who appears to have no disability can have academic and social problems (Lavoie, 1988).

Learning disabilities are most commonly identified when professionals or parents recognize that there is a significant discrepancy between a child's or an adult's potential to achieve in academic situations and his or her actual performance. In addition to academic deficits, the student may suffer from less obvious associated disabilities which affect self-esteem, vocation, socialization, and/or daily living activities when viewed in other ecological assessments (Hammill, 1990). Social problems which reveal themselves as early as third grade may foreshadow social inaptitude many years later. The popular notion that social problems will disappear as the youngster makes academic progress is simply unwarranted. For this reason, educators have proposed including some aspect of the social domain in the definition of learning disabilities (Conte & Andrews, 1993; Interagency Committee on Learning Disabilities, 1987; Lavoie, 1988; President's Committee on Employment of the Handicapped, 1988).

Social-skill deficits can trouble a student at least as much as basic academic and language obstacles. In many cases, such deficits are more costly because of their long-term psychological and social effects in adult relationships and career endeavors. Programs to support individuals with learning disabilities have long focused exclusively on academic remediation. Thus, children with learning disabilities grow into adults who not only suffer academic difficulties but also advance into the real world perceived as social misfits.

As educators, we should attempt to identify areas of strength and weakness in social skills as early as possible because a strong correlation exists between job success and social skills development. An adult with a learning disability may have difficulty participating in a job interview, accepting criticism from an employer, or explaining a problem to a supervisor (Okolo & Sitlington, 1988).

Concern for the social status of individuals with learning disabilities has generated research to identify the source of social problems (Anderson, 1970; Bryan, 1978; Reiff & Gerber, 1990). Results indicate that two factors in social development may pose particular problems. First, the individual may harbor negative feelings and beliefs about himself or herself; negativity may set in motion a chain of maladaptive responses to academic and social situations. The second factor relates to the acquisition of social, cognitive, and communication skills; the individual's lack of skill in comprehending or responding to complex social situations may result in inappropriate actions.

This chapter will review three areas of the social domain which are necessary for career/educational success: grooming skills, communication skills, and interpersonal relationships (see checklists at the end of this chapter). Grooming skills are essential regardless of one's vocation; an individual's appearance during an interview or on the job can affect those around him or her positively or negatively. People with learning disabilities are often capable, diligent workers, yet their lack of body hygiene and skills in personal dress repels teachers and peers, overshadowing positive qualities.

Communication, both verbal and nonverbal, is of major importance in learning and exchanging information. Frequently, students with learning disabilities need to develop basic behaviors such as making eye contact with the person to whom they are speaking, concentrating on the topic of the conversation, waiting to respond in turn, and articulating their response in an age-appropriate manner before they can learn more complex social skills.

Students with learning disabilities may also require assistance in developing effective nonverbal communication. They must be able to read significant facial expressions and body language, distinguish between intimate and casual conversation, and recognize the expected proximity between speaker and listener. Roffman and Pasthill (1991) and Payne (1991) noted that without these complex communication skills, one will have difficulty negotiating in the work world and establishing a household away from their home of origin. Clearly, these same skills are important in the college classroom and in campus social situations. An adolescent with a learning disability must have the opportunity to learn and rehearse communication skills in order to internalize and transfer the messages into the vocational or home environment at a later time (Fad, 1990). Nothing should be left to chance or assumption.

Perseveration is an associated disability for many individuals with learning disabilities; many tend to fixate on one topic or theme and talk exclusively about it. This is common and tolerated in younger children but has a detrimental effect on peer relationships in adolescence and adulthood. The individual may be avoided and excluded from social activities; as a result, the individual with a learning disability becomes isolated.

Most people have inhibitory responses which signal them to rephrase or leave unstated a questionable thought, but individuals with learning disabilities are often impulsive and do not think before speaking. A person with a learning disability may be playing ball, performing an academic task, or having an ordinary conversation and suddenly blurt out an irrelevant or inappropriate comment; the audience is left wondering why he or she is so bizarre. Professionals and sensitive peers can be alert for these characteristics and coach the individual in more acceptable ways of interaction.

Students with learning disabilities may also show characteristics of auditory discrimination or auditory figure ground deficits. They may have difficulty distinguishing between two words which sound similar (for example, tell and well) or may be unable to filter out extraneous noise from the speaker's voice. Both deficits can cause the person to respond inaccurately or display an inappropriate facial expression simply because the message is misinterpreted. Again, these skills are critical in the classroom and in campus social life.

A third aspect of the social domain is interpersonal relationships, which represent another difficult set of skills for many people with learning disabilities to master. Effective interpersonal skills are essential in order to acquire and retain a job (Neubert, Tilson, & Ianacone, 1989). Even after the individual acquires a job, it is often helpful if the new employee has job support to clarify company policies and procedures, to assist in acceptance of criticism, to demonstrate how to ask for help, and to learn methods for dealing with personal anger or anger in someone else. Individuals with learning disabilities may have difficulty starting conversations. They may talk too much on the job, be overly critical of people, or be overly friendly; they may complain or be too passive with fellow workers or employers. Deficits in interpersonal skills often necessitate some kind of intervention in the work environment to enhance the employment success of people with learning disabilities (Payne, 1991).

Sociometric techniques, peer, teacher, and parent ratings, self-reporting measures, and observation checklists are frequently used to evaluate social-skills development. Ecological assessment data can be used to determine present levels of behaviors and provide a starting point to begin needed intervention and a measure for eventual progress (Heron & Heward, 1988). It is important to observe behaviors in various settings because behaviors which are acceptable in one environment may not be in another. For example, it is quite acceptable to be excited and loud at a football game, but it is considered rude at a dinner or formal dance; shorts and tee shirts are acceptable at a picnic but not at a job interview. Within the nondisabled population, a wide range of acceptable behavior exists, and this fact must be taken into account; one does not want to subordinate individuality to a set of preconceived social norms. Still, the individual must be able to function with others in society. I agree with Seigel and Gaylord-Ross (1991), who say that vocational success for many people with learning disabilities is impeded not by lack of opportunity or desire to perform well, but by the failure to meet accepted social standards in the work place.

No one teaching technique is ever completely successful with all students. The following teaching techniques may be applied to remediate social-skill deficits. Modeling a particular skill and its component parts as the individual observes is one effective way of teaching social skills (Fiedler & Chiany, 1989); another is modeling a certain behavior by having the individual role-play with peers in a nonthreatening environment using simple, direct language without ambiguity (Kronick, 1978; McIntosh, Vaughn, & Zaragoza, 1991). Students learn faster from each other and are usually more comfortable role-playing with their peers than with adults; I have had more success with using films or acting out social situations than with showing pictures or talking about social skills. Most students with learning disabilities need to see examples of body language and hear words and tone of voice to understand feelings and situations; walking the individual through an actual experience is highly instructive.

Coaching is a second technique which is critical to success with modeling. A coach can give the individual immediate feedback in the form of gestures, verbal responses, physical prompts, and cues. Just as in learning any new skill, social skills require frequent review and rehearsal. It is unrealistic to think that individuals will handle every situation correctly after participating in role-playing or modeled situations a few times. They often have difficulty transferring learning from one situation to another; they require constant praise for their achievements, and reassurance and reinforcement when they encounter a setback.

Hopefully in the future, social-skills training will be an integral part of the elementary and secondary curriculum for children and teens with learning disabilities. In high school, the transitional section of the Individual Education Plan (IEP) should address the student's specific social-skill weaknesses and their remedies. Now and for some time, however, many students with learning disabilities will arrive on campus without the social skills needed to succeed in interactions with other. Without acceptable social skills, the likelihood of the student's emotional and vocational success is small. Offices for disabled student services wisely strive to identify problems and assist students in correcting them.

By extending expectations beyond academic proficiencies and the classroom environment, educators offer their students with learning disabilities the tools with which to develop lifelong relationships, gain social acceptance, and experience career satisfaction and advancement. The task is arduous, but necessary, if students with learning disabilities are to look forward to a future of happiness and success.

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Checklist for Grooming Skills

Student Name: __________ Grade: __________

A	B	C	D	Skills
				1. Clean body, including fingernails and teeth
				2. Clean, appropriate hair style for environment and time of day
				3. Clean and appropriate clothes and shoes, free of tears
				4. Clothing fits properly; not too tight or too loose
				5. Body weight is not too thin or too heavy
				6. Female: Makeup appropriate for environment and the time of day
				7. Male: Clean-shaven or neatly trimmed beard or mustache
				8. Displays good standing and sitting posture

A = OUTSTANDING
B = SATISFACTORY
C = MARGINAL
D = NOT SATISFACTORY

Additional Comments

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Checklist for Communication Skills

Student Name: __________ Grade: __________

A	B	C	D	Skills
				1. Tone of voice age-appropriate; not too loud or too soft
				2. Uses proper grammar free of slang and profanity
				3. Establishes eye contact with the person speaking
				4. Maintains acceptable proximity when speaking to another
				5. Rate of speech is age-appropriate
				6. Initiates conversation, greets people, and introduces self
				7. Listens to directions and follows through correctly
				8. Is able to read nonverbal body language
				9. Expresses negative and positive feelings appropriately
				10. Can ask for help from peers and authority figures

A = OUTSTANDING
B = SATISFACTORY
C = MARGINAL
D = NOT SATISFACTORY

Additional Comments

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Checklist for Grooming Skills

Student Name: ________

Grade: ________

A	B	C	D	Skills
				1. Participates in activities with opposite sex/ same sex members
				2. Accepts constructive criticism from authority or peers
				3. Expresses disappointment/anger without aggression or yelling
				4. Maintains friendships over an extended period of time
				5. Understands the feelings of others
				6. Works independently
				7. Works in a group situation and shares responsibility
				8. Interacts appropriately with same-sex authority figures
				9. Interacts appropriately with opposite-sex authority figures
				10. Allows others to speak in a group without interruption
				11. Can take a compliment
				12. Can give a compliment

A = OUTSTANDING
B = SATISFACTORY
C = MARGINAL
D = NOT SATISFACTORY

Additional Comments

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CHAPTER SIX

Marginal Beginnings but Great Endings

Angela Renaud

Although new college students encounter common academic and social adjustment issues, 15-25% face challenges beyond those expected of new students (Brinkerhoff, Shaw, & Maguire, 1993). Up to 25% of these students have learning disabilities which impact their initial academic and social experiences in college. Learning disabilities often accompany other disabilities such as cerebral palsy and Tourette's Syndrome, yet the learning disability itself may be invisible. Judith Longo (1988) believes that because these students are marked by no visible sign of learning differences, they may pose the greatest challenge thus far to higher education's ability to accept and adapt to diversity.

Hundreds of colleges and universities today recognize the unique educational needs of students with learning disabilities and promote their array of services in postsecondary guidebooks. The difference between an exemplary support program and a mediocre one lies in the quality of interconnections among the various services offered by an institution. The following discussion centers on the necessary and appropriate infrastructure that a college or university must provide to address the academic, affective, and psychosocial needs of new and continuing students with learning disabilities. It describes effective interventions to help students hone their academic skills, learn to assess their own strengths and weaknesses as learners, and accept responsibility for their success. The efforts described aim at helping students develop existing talents and abilities.

Integrated Service Model

Although diversity in professional and personal characteristics enhances any service staff, a coordinated team organization helps maximize staff abilities and resources. An ideal staff consists of academic counselors, learning support specialists, and experts in learning disabilities; members from each constituency become the primary service team to work with assigned students. In addition to the primary team, another group of college personnel, which includes admissions personnel, selected faculty, and administrators, is essential. Sharing perspectives from a variety of professional disciplines results in a broader understanding of students. Although the entire team supports the students, each student should be assigned a team leader or primary team coordinator. The opportunity to get help from an adult is a significant factor in retaining any first-year student, especially one with a learning disability.

Front-Loading Services

Admissions

The primary team coordinator should make initial student-staff assignments based on early self-identification by the student. Support staff can encourage students to provide this information at recruitment and pre-enrollment presentations. The support staff can also provide general admissions representatives with training in the requirements of the Americans With Disabilities Act (ADA) and Section 504 of the Rehabilitation Act of 1973. Postsecondary institutions are prohibited from using criteria for admission that have disproportionate, adverse effects on people with disabilities unless the criteria have been validated as predictors of success.

Both academic and nonacademic criteria are properly used to determine eligibility of undergraduate applicants with learning disabilities. Besides considering the standard academic criteria (i.e., GPA, class rank, and pattern of high school course work), admissions staff should work with support staff to determine an appropriate match between the institution's available support and compensatory services and the applicant's need for support and services. In the nonacademic arena, admissions officers often need assistance in assessing a student's personal motivation, commitment to becoming an independent learner, persistence, and compatibility with institutional expectations. Primary service personnel often must determine whether high school courses taken in special classes are equivalent to mainstreamed courses. In summary, admissions and LD personnel need to work cooperatively to determine if a student is "otherwise qualified" to meet the academic and technical standards of admission.

Summer Transition Programs and Orientations

Many institutions find pre-enrollment summer transition programs and orientations for students with disabilities effective. Ideally, the program lasts two to four weeks and takes place in the summer before the student enrolls. Alternatively, a scaled-down, one-day version of the transition program can introduce students to the menu of services available and to sample teaching styles.

In either scenario, primary service providers, faculty, and peer tutors cover academic and social adjustment issues. A hands-on, interactive presentation style works best; for example, students might be required to take notes during a lecture on college traditions and historical highlights of the college and the surrounding community. (Students with orthopedic, visual, or hearing problems which interfere with note-taking would be provided with the appropriate adaptations.) At the conclusion of the lecture, specially trained peer tutors or successful continuing students with learning disabilities can show a model set of notes on the lecture material and give instruction on the Cornell Notetaking System. Peer tutors also work well as student mentors who introduce new students to campus life in general, to a support group of upperclassmen with similar disabilities, and to their academic and special-needs counselors. This taste of college helps students expand their comfort zones and develop the confidence necessary for a positive beginning.

Beyond Orientation

Academic counselors can introduce themselves to students by letter or telephone before the start of classes. During the academic year, the counselors advise the students on the appropriate use of campus services and monitor their academic progress. Each student should sign an academic contract with his or her counselor specifying the goals and objectives for the term and identifying strategies which will be used to attain the goals.

Mentoring through peer support groups should be available at the onset to enable each new student to benefit from the experiences of a continuing student with similar problems. The student mentor can accompany the new student to the Learning Center for subject tutoring or skill development, and the two can attend workshops together on study strategies or college adjustment topics such as cultural diversity or time management.

Implementing Appropriate Accommodations

Institutions should have clearly defined policies and procedures for implementing academic accommodations. Students, faculty, and staff must be educated about the nature and salient features of all types of disabilities and the rationale for various prescribed accommodations or academic adjustments which aid students.

Colleges should print service eligibility guidelines in their admissions catalogs and student handbooks. All written communications should stress the importance of self-identification, the type of documentation necessary to warrant accommodations, and a generic listing of possible adjustments.

Balancing academic accommodations with academic integrity allows colleges to maintain the essential features of course and program requirements. Accommodations enable a student's ability to be assessed without interference from the disability. Assessing a student's abilities is best achieved through a blend of qualitative and quantitative methods; an initial interview structured around a standard format is an appropriate beginning. A review of the student's recent psycho-educational testing uncovers his or her processing characteristics; local college norms should be considered when test scores, SAT scores, and the results of additional admissions tests are contemplated. Learning-style inventories, such as the Learning and Study Strategies Inventory (LASSI), provide a clear picture of how a student learns. Such inventories help service providers understand the student and lead him or her to increased self-awareness (Funk & Bradley, 1994). Portfolio materials (e.g., writing samples, exhibits of artwork or musical recordings, evidence of leadership ability or community service) should also be evaluated. Finally, a career interest inventory helps the student clarify career goals and identify a career path.

Learning Strategy Instruction

During the academic year, all students, disabled or not, should be offered instruction in generic learning strategy; workshops can be held in residence halls or at learning centers. Students can be introduced to study strategies through a co-teaching approach in their major content or general studies classes. To accomplish this instruction, the delivery team must expand to include representatives of the student life staff and the faculty. If service staff co-teach in a content class, they can offer suggestions on elaborating concepts and enhancing vocabulary. To encourage attendance at workshops in the residence halls, administrators might reward students who attend a minimum number of workshops on topics such as note-taking and test taking strategies, test anxiety reduction, and mnemonic devices by giving them coupons for the campus bookstore or food vendor.

The primary service staff provide an important intervention when they teach students metacognitive learning techniques which help them become actively engaged in learning. Research suggests that most student processing difficulties originate from strategy inefficiency rather than from stable, innate structural and perceptual inabilities. Thus, conceptualization moves from an ability/disability model to a strategic/nonstrategic one. Passive learners can develop strategic, goal-directed behaviors.

As an example of strategic learning behavior, students can learn self-regulatory speech techniques. If a student realizes attention is waning, he or she can regain it (Snider, 1987) using inner speech. Meichenbaum's (1977) five-step self-instructional procedure supports this view. The teacher first models the task while talking aloud, then the student performs the task with guidance. Finally, the student guides his or her own behavior—first overtly by speaking aloud, then by whispering, and lastly through covert speech.

As students learn strategic, goal-directed behavior, they must remember that selective attention, or knowing what to pay attention to, is situational rather than stable. To be successful, their self-monitoring must be linked to specific content.

Learning, in a Nutshell

Students should be able to learn from academic counselors, learning-center tutors, and faculty who can reinforce a message in many contexts in a workshop format. Training should incorporate a mnemonic device to provide students an easy way to access and retain the learning principles. For example, the exercises listed below might serve as steps.

Spread the learning

Develop time management skills to avoid cramming material. Maximize the standard properties of memory and minimize forgetting by reviewing material within one hour of presentation, again within the first nine hours, and every day after that until the exam.

Repetition

Engage in 50-100% overlearning. For example, if eight trials are necessary to learn a poem by memory, 50% overlearning would require four additional repetitions.

Information links

Associate new learning with the old. Use verbal elaboration at the initial introduction of new ideas; for example, when reading texts, acquire the habit of keeping eyes off the page 50% of the time. During this time, paraphrase the reading and make analogies and other connections to previously acquired information.

Visualization

As Thomas G. West notes in a preceding chapter of this monograph, visualization serves as a powerful learning tool and is available to many students with learning disabilities. Visuospatial representations strengthen mental organization and processing by integrating verbal and nonverbal conceptual frameworks.

Opening Approaches (Whole-Part-Whole)

Learn to begin learning by previewing the material and reading the interim and final summaries, then analyze the material into its components, and, finally, reread the summaries. This routine organizes information.

Dreams and Sleep

Learn the benefits of using sleep to help consolidate learning. Plan to sleep at the conclusion of study periods instead of between them.

The five steps can easily be recalled through the mnemonic device which uses the first letter in the series (Spread the learning, Repetition, Information links, Visualization, Opening approaches: whole-part-whole, Dreaming it) as the first letters in a catchy phrase. In this case, the phrase might read *S*eldom *R*epeated *I*nformation *V*ery *O*ften *D*isappears.

Faculty Workshops

The primary service team can deliver effective faculty workshops focusing on the following topics: characteristics of the student with a learning disability, learning style differences, and specific teaching techniques. Discussion and simulation exercises can provide a clear understanding of the effects of learning disabilities. The Association on Higher Education and Disabilities (AHEAD) makes available an Inservice Education Kit which includes excellent materials to acquaint faculty with the nature of disabilities. Such instruction may alleviate the anxiety of many faculty who have little or no experience in adapting their teaching.

In one segment of a workshop, participants read a selection as a student with dyslexia might perceive it. This experience helps them understand the importance of accommodations that are proscribed as "reasonable" for students in their classes. Workshop participants must complete the "dyslexic" reading within the usual time period; the extraneous information and missing text require the reader to sort out the meaningful information and fill in the missing words. Participants begin to recognize the need for extra time. As further reinforcement of student needs, the presenter reads the text aloud to the participants, who then agree that they fully understand the contextual message. This method reinforces the importance of taped texts or oral testing for those students who can understand the content of college-level texts but who have great difficulty decoding the meaning of printed words.

Faculty should also be made aware of the writing, oral language, math, study skill, and social skill differences often exhibited by students with learning disabilities. Wren and Segal (1985) provide a partial list of characteristics, which lie in the areas of writing (problems with sentence structure, grammar, omitted words, and copying from the board or transparency); oral language (problems attending to spoken language and expressing ideas orally); mathematics (problems with memorizing, reasoning and/or abstract concepts); study skills (poor organizational skills, difficulty with following instructions); and social skills (problems with reading facial expressions and body language and with interpreting subtle messages such as irony or sarcasm).

Workshop presenters must make it clear that each student with a diagnosed learning disability can exhibit a variety of weaknesses in varying numbers and intensities along with equally varied academic and social strengths. Like other students, each student with a learning disability has a unique profile of strengths and weaknesses. The most successful students communicate comfortably and effectively about their disability, exhibit a willingness to seek academic assistance, use academic resources such as faculty advisors and academic skill centers, and act as their own advocates.

Part of the workshop should be a presentation on preferred learning styles (i.e., preferences in the ways individuals take in and process or understand information and retrieve knowledge). Some learn best by listening, some by seeing, and some by doing. It is important to determine an individual's most effective learning mode, the use of which improves learning while minimizing the effort necessary to achieve the desired results. As Walling has noted, when one discusses learning styles in the context of disabilities, one should be aware that an individual's preferred mode may not be available. Someone who learns best through "hands-on" experiences, for instance, may lose the ability to use his or her hands through a traumatic brain injury.

Auditory learners depend on their voices and ears to learn; they prefer to observe, read, and examine. Class discussions and collaborative learning suit their learning style. Visual learners, on the other hand, picture what is being said; so highlighting material in color and using flashcards and mapping techniques can aid them a great deal. Kinesthetic learners learn best through performing an activity; they underline while they read, trace, make models, enter notes into a computer, and manipulate flashcards.

Lastly, material should be repeated in order to reinforce learning. In an ideal situation, students begin by using their strengths and gradually incorporate other modalities in different sequences. All three types of learners (auditory, visual, and kinesthetic) may be enrolled in any one class; even when no students with disabilities are identified in a class, instructors should consciously integrate visual, auditory, and kinesthetic tasks and presentations into their teaching plan. In addition, evaluation techniques should permit students to demonstrate their knowledge through a variety of modalities: exams, papers, oral presentations, and group projects.

A faculty workshop should suggest instructional techniques which can help students who have learning disabilities. Many of the techniques are useful with all students. Bernstein and O'Connor (1992) made the following suggestions to faculty at Johnson and Wales University:

1. Cursive writing is confusing for students with reading and/or perceptual disabilities. Teachers should print information on the board or transparency and type or word-process tests and handouts whenever possible.

2. Allow extra time for assignments which involve reading.

3. Students with learning disabilities who cannot communicate effectively through writing should be permitted and encouraged to print, type, or word-process assignments. Oral examinations, recorded by a scribe, may be valid alternatives to written ones.

4. Sequential memory tasks (e.g., spelling, math, and step-by-step instructions) may be more easily understood if the task is broken into small segments ("chunked") or if the student receives directions one step at a time.

5. Students retain learning best when information is repeated orally (e.g., on tape or through questioning) or visually (e.g., flashcards).

6. I recommend the Cornell method of note-taking. Students take notes on the right-hand page of the notebook; after class they write a paragraph using the most important points from the notes on the left side. Key words from the lecture are also written on the left side.

7. Using information from their notes and/or class lectures, students can draw a diagram which conveys the relationships among ideas.

8. Students who learn best by visualizing may retain information better if they picture the information. For example, a student in accounting might picture a ledger with themselves putting information in the different areas.

9. Students should be encouraged to use folders, individual notebooks, color-coded notes, and flashcards.

10. Students should learn to stop, check their understanding, and rephrase new material. Teachers can help students develop these strategies through modeling; an effective script might include the following: "Think aloud as you are reading new material." "I don't understand what I just read; therefore, I'll have to use a different approach. I'll learn the vocabulary first and read the questions at the end so I'll know what's important."

11. Some students learn better when they talk with other students about the material. Teachers can occasionally arrange for students to work in small groups.

12. To teach a subject, one must learn it well. The instructor might make the student responsible for teaching new information to another student; this method enhances understanding and builds self-esteem.

13. Teachers should print technical vocabulary or vocabulary unique to the course on the board during the lecture so students will know the correct spelling of each word.

14. Teachers should allow students to write answers on the test itself rather than on a separate sheet of paper; circling or checking answers is best. Scantron forms cause problems for students who have difficulty tracking. Teachers should ask direct, concise questions and avoid multiple choice and matching within one question. Matching questions should contain an equal number of choices in each column.

Tests should use the same vocabulary or terms as those used in class. If fill-in questions are used, students should be provided with a word bank of terms or vocabulary. Students are often more successful with recognition than with recall; key words in true/false or multiple choice questions and answers should be underlined.

Conclusion

Learning disabilities have been called hidden disabilities. Successful students with learning disabilities are typically those who identify their own learning difference and access the coordinated support services available on campus. Equally important is learning from faculty who are sensitized to learning differences and who know how to modify teaching approaches to meet a variety of learning modes, styles, and needs. Successful students with learning disabilities learn to awaken their abilities and realize their full potential.

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CHAPTER SEVEN

A Safety Net for Success: An Approach to Transition Planning

Jolene Bordewick

All college students need opportunities to learn, to participate in campus activities, to make friends, and to succeed. For some students with disabilities, meeting one or more of these needs can be challenging. Difficulty may arise because postsecondary support systems differ from support systems in secondary schools and in community care facilities. Students who require a variety of accommodations and lifetime supports often move from a comprehensive support system in a high school or care facility into an adult educational environment with a different set of systems and entirely new procedures.

As a result of complex unknowns and differences between systems, adult learners with disabilities face a high risk of college failure. Local high schools provide numerous support services and accommodations of varying quality, including technical equipment, special classroom accommodations, teacher aides, on-site caregivers, and school-based resource teams which case-manage and monitor Individual Education Plans (IEPs). Students with disabilities are routinely tested and are tracked throughout their elementary and secondary school years; regulations require that schools also arrange for the students' ancillary needs. These same regulated support levels are seldom adequately planned in postsecondary institutions; faculty often are unsure how best to create instructional strategies and accommodations tailored to individual student needs. When a student with a disability enrolls in a postsecondary institution, he or she may simply not know what is needed. A student who has neglected to plan for adequate resources, discuss appropriate classroom accommodations, or determine ways to provide for their technical and educational needs may fail.

At Capilano College, a Canadian two-year postsecondary institution enrolling about 6,000 students in North Vancouver, British Columbia, a "safety-net" transition procedure (using mountain climbing as an analogy) was initiated to allow students with disabilities to review their ongoing educational needs and to make sure that their support systems and classroom accommodations were in place during their first year. In a small college environment, we believed, people can provide a personal touch which offers students with disabilities the support they need to mature and move on to new horizons. The various components included outreach; transition; systems planning; documentation and registration assistance; individualized planning; intercollegiate collaboration; internal follow-up; and outcomes, evaluation, and renewal.

A transition and safety-net support model was developed to increase retention and reduce dropout rates of students with disabilities. It was proposed to provide a welcome for students and to encourage and support faculty and staff as they collaborated to promote student success. Consenting students and interested faculty and staff developed cross-college linkages. The idea was to create both formal and informal opportunities to share information as well as to arrange meeting times to make necessary changes or identify additional needs expressed by students during their first year. The model contained four major components incorporating the above eight topics. Each component will be discussed at greater length later in the paper.

A Safety Net for Success

Getting a Toe Hold

- Outreach and Intake
    - Linking Systems: A Beginning
    - Planning and Goal Setting

- Transition Planning and Documentation
    - Information and Documentation
    - Student Self-determination and Advocacy

Starting the Climb

- Systems Planning and Linking Internal Departments
    - Individual Education Plans/DSS and Advising Services
    - Application and Intake Procedures

- Registration Assistance
    - Application and Pre-Registration Workshops
    - Completing the Intake Process

Setting the Net

- Individualized Planning
    - Instructor Notification and Follow-up
    - Student Support Plans (SSPs)

- Internal Collaboration and Teamwork
    - Case Management and Mentoring
    - Student Participation

Reaching the Top

- Outcomes, Follow-up, and Renewal
    - Mentoring and Follow-up
    - Evaluation and Setting New Goals

Elaboration of the Model

Getting a Toe Hold

The initial "Toe Hold" component included the outreach and transition support identified between the high school and the college. Part of promoting success for students with disabilities was helping them feel accepted and welcomed into Capilano College. Transition planning and orientation practices which promoted a sense of openness and support were identified at the first stage in the process; planning was initiated by Capilano College advisors and disability support services personnel in collaboration with identified high school counselors and teachers as well as school-based team members. Intake meetings and planning sessions were held in the high schools, and disability support services personnel developed individualized transition plans.

Starting the Climb

The second component, "Starting the Climb," included systems planning and the collection of documentation and intake information needed to determine support service levels in the college. An Individualized Student Support Plan (SSP), a college-devised form of an Individualized Educational Plan (IEP), was used with advising personnel, the Registrar's Office, and disability support service personnel to link important information. Potential Capilano College students were invited to attend application workshops held in high schools; eligible students were placed on a priority registration list and assured of placement in classrooms with supportive faculty, and their accommodation needs were identified. Sign language interpreters were screened, and arrangements were made for taped textbooks. Students were assigned to different classrooms in order to maintain balance and not overload any one instructor. Coordinators determined equipment and testing needs, and faculty, including librarians, were informed of special student requirements. By creating flexible opportunities to meet with students and high school counselors, organizers enabled participants to discuss needs and develop barrier-free accommodation systems. Students could begin the "climb" once they knew that the system was ready for them.

Setting the Net

"The Net" incorporated individualized intake planning and the student/faculty collaboration required to accommodate students in the classrooms. This component captured action plans, notified various instructors and department staff of individual student needs, and offered opportunities for instructors to discuss their concerns with disability support services (DSS) personnel; students were invited to plan their needs with faculty and explore alternative accommodations if required. DSS personnel asked faculty members and college advisors to establish and maintain regular links with students in the program; interested faculty and staff became mentors. This mentoring component incorporated a collegiate responsibility for close collaboration among faculty, staff, and students. Group meetings were scheduled during which students and mentors could review concerns and share information. Mentors were asked to schedule times to meet with their students and to contact DSS if difficulties arose. Discussions centered mostly around exams, tutors, and taped texts, but other required accommodations and support strategies were mentioned during this part of the process. Students were assumed to be able to bond with mentors. Mentoring activities were performed voluntarily as funds were not available to pay mentors.

Reaching the Top

"Reaching the Top" generated both structured and unstructured time for an evaluation of strategies and accommodations. This component allowed for future planning and for identifying procedures needed to incorporate new goals and begin second-year strategic planning for student success.

"Reaching the Top" affirmed that the students had "made the grade" and were ready to begin looking towards the next year. Regularly scheduled meetings, follow-up calls, and drop-in meetings provided opportunities to review individual accommodations and incorporate future strategies. Students who "reached the top" no longer needed the support offered within the "safety net;" they were ready to "make it on their own." At the beginning of a new academic year, another set of new students with disabilities would participate in the "safety net."

What Happened?

The following is a more detailed breakdown of the actual procedures undertaken during the course of the "safety net" year at Capilano College. The conclusion provides an informal evaluation of the program.

Getting a Toe Hold

Outreach and intake. The outreach and intake process was initiated between feeder high schools and the college through direct contact, beginning at least a year prior to a student's planned enrollment. The college initiated this transition process and arranged visits between high school counselors and college personnel; both disability support services (DSS) personnel and college advisors made high school contacts. Additional outreach activities were carried out between Capilano College and an external college Advisory Committee composed of representatives from feeder school districts who administer student support services. This committee enabled DSS to initiate the process with school district specialists prior to making direct contact with particular schools or individual students.

Students who were identified as candidates by school-based teams, counselors, and/or teachers were invited to begin planning for their transition from the high school environment as they initiated plans for college. DSS personnel discovered that students too often assumed that college was merely a continuation of high school and that everything would be in place for an easy transition. In fact, some students simply were not eligible for college.

Transition planning and documentation. Students with disabilities often relied on family members to support them in the transition, while students without disabilities did not. When DSS personnel made contact in a local high school, they identified students who planned to continue their education at Capilano College, and high school personnel contacted their families. Students were asked to review Capilano College's course entry requirements and to make some decisions about their educational goals; meetings were arranged with DSS personnel, an advisor, the student, and his or her parents to discuss options. Students and parents often did not understand that there are requirements for both admissibility and eligibility! Support services needed to be identified, and the intake process initiated.

Documentation of the disability was the next hurdle. Students were expected to provide recent medical and educational evidence of the disability and to use self-advocacy skills to begin inquiring about the types of services and equipment available to them. During the interview process, they would begin to identify the supports which they needed in order to be successful. Many students were unable to identify their needs and request support services. They were at higher risk of failure than their peers, who usually asked for what they needed.

Starting the Climb

Systems planning and linking internal departments. Students with disabilities usually had Individual Education Plans which provided for them from kindergarten through twelfth grade. They were likely to have files of educational documentation describing their special education needs and technical support requirements. The college obtained signed release of information forms to make this information available while students, teachers, and counselors were planning successful program and study strategies.

Intake began with a formal interview with the student, who was often accompanied by a family member, and a member of the advising or counseling departments. At Capilano College, the educational advisors serve as an effective link between the high school student and the personnel in the Disability Support Services Department; when a high school student with a disability was identified to the Advising Center, the Center's staff automatically notified Disability Support Services staff. Through the sharing of information between departments, and by the direct contacts made in the schools, students with disabilities were identified early, and the transition and interview processes were begun.

An initial meeting between DSS personnel and the educational advisors linked both course planning and program eligibility with the range of support services available, allowing an opportunity for comprehensive intake planning.

Registration assistance. The College Advising Center offered Application Workshops from January through May to assist students in applying to and preparing for transition to college. All students were encouraged to participate so that they could learn the application and preregistration processes. Offered May through August, additional Preregistration Workshops assisted students in the academic/university transfer division in choosing courses which would help them meet their educational goals.

Students with disabilities were encouraged to participate in these workshops as part of the process of learning self-determination and self-advocacy; they were asked to follow the same process as other students.

Personnel assisted students with disabilities on an individual basis during in-person registration, performing such tasks as calling to insure that the student was prepared, helping students by completing paperwork, and getting faculty signatures for a student who could not physically complete the process. Disability services personnel and an advisor provided the Associate Registrar with documentation for students who required priority registration; this permitted the Registrar's Office to confirm eligibility and set up a timetable which insured that a student in a wheelchair or with some other mobility impairment was not scheduled for an inaccessible classroom (accessibility is still an issue at Capilano) and which did not concentrate classes too closely together for a student who needed a chance to rest periodically. Individual faculty were selected to balance the numbers of students with disabilities enrolled with any one instructor.

At this point, students were ready to begin their classes, and the college mentors began to activate the internal "safety net" to insure student success.

Setting the Net

Individualized planning. Once students had registered for courses, Instructor Notification Forms were prepared. The forms simply outlined for faculty the strategies or technical needs of students with disabilities in their particular classrooms. Personnel in the Department of Disability Support Services provided individual follow-up and information to instructional faculty to further support and accommodate individual students in their classes.

Personnel wrote support plans as they identified student needs. Many students had little knowledge about the support they required. Appointments were set up between the DSS Department personnel, counselors, faculty, and the student to evaluate the need and/or to change the accommodation strategies if required.

Internal collaboration and teamwork. Case management and team planning began once students enrolled and indicated that they were willing to be mentored or followed on a regular basis. Representatives from a number of service areas were contacted to begin the mentoring process: Disability Support Services Department personnel, advisors from the college Advising Center, counselors from the Counseling Department, faculty from various divisions, students, and adult/community service agencies assigned to provide adult care and follow-up.

Mentoring usually included an exchange of telephone numbers, allowing for informal communication. The mentors were volunteers selected from the groups listed above who maintained some type of contact with a student to ensure that he or she was supported in positive ways. From time to time, other DSS students or nondisabled students acted as mentors for these new students. Students were encouraged to maintain regular contact with their mentors and were responsible for meeting with mentors should their grades begin to slip or other problems develop. Student support meetings with the whole group were set at midterm and again just after finals.

Reaching the Top

Outcomes, follow-up, and renewal. Student outcomes were shared among college mentors, interested students, and some of the adult service agencies which were responsible for the student outside of the educational milieu. Personnel reviewed student progress, noted changes in the student's individual support plan, and renewed the plan for each student as they began the final ascent: the reach for the top! When students received their final grades, they were responsible for reporting back to their mentors and making recommendations for changes in their schedules as needed. Personnel encouraged continued collaboration and contact. Successful students completed the year feeling good about their status and their future plans.

Conclusions

The Safety Net for Success Model of 1993-94 was used at Capilano College during the 1993 school year and into the fall semester of 1994, but encouragement and monitoring continue in a less formal, yet significant, way to this day. Various transition strategies were completed with feeder schools. A number of students and internal college mentors (personnel from both faculty and staff) were identified. Students were asked to sign a release of information form, given appropriate documentation, told about the program, and offered an opportunity to participate in it. Twelve students chose to be monitored.

Formal meetings between selected faculty and staff (that is, named mentors) and students took place twice during the fall term and once during the spring term; mentors had to set up other informal meeting times throughout the year. The final evaluation was scheduled for the end of term. The ratio of faculty to students was 1:1 or 1:3. Students were encouraged to outline any concerns as well as suggest accommodation strategies or changes in their programs. Students paid the most attention to issues such as adapting exams and providing extended time to complete papers. Complaints about not receiving taped texts or technical equipment were often discussed in small groups. Various individual concerns included: social and emotional difficulties, group project work, general stress from heavy writing assignments and meeting deadlines, studying for exams, family illness and other personal concerns, and an inability to communicate with instructional faculty.

Faculty and staff mentors noted the following difficulties: financial considerations required by time commitments, finding common themes among students, resolving specific personal concerns, maintaining regular contacts and follow-up, and relating contact time directly to student success.

Evaluation

In the program's evaluation, students suggested that much of the information they needed was individual, that they wanted to hear what was being said and yet were often unable to attend meetings. Comprehensive documentation was not always readily available, and faculty and staff felt uncomfortable exchanging information about a student without knowing the student's history. Time commitments were too great, and it was felt that DSS personnel could take more responsibility for meeting student needs and reduce other mentors' time.

Final Thoughts

The Safety Net Program requires funds for peer and mentor support if faculty and staff are asked to make large time commitments. A proposal for funds to formalize the "Safety Net" process was written at the end of the 1994 year to continue the practice and increase the linking process both internally and with feeder schools, and funds to renew the "Safety Net" program were received in the spring of 1995. Having begun in the fall of 1995, the two-year program will last until the spring of 1997. It was redesigned to include mentoring between students in the Peer Support Center and students with disabilities registered in the Department of Disability Support Services. Twelve student proteges and 12 mentors were selected. Interested counselors and advisors also continued to participate along with disability services personnel. The second year of the program will see the development and delivery of employment outreach workshops in collaboration with the Capilano College Student Employment Center; a written evaluation and student success data will be available in late 1997.

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CHAPTER EIGHT

Leveling The Playing Field:

Alternative Testing Arrangements

Margaret A. Chmielewski

Section 504 of the Rehabilitation Act of 1973, as amended in 1976, and the Americans with Disabilities Act of 1990 (ADA) require that postsecondary institutions plan for and provide program accessibility for students with disabilities. The university community has the responsibility to provide students with disabilities equal access to all aspects of campus life. A successful university philosophy for inclusion strives to be proactive and willingly creates an accessible environment for all students. Administrators, faculty, and staff must understand and appreciate the uniqueness and potential of every student, with or without a disability. A philosophy for inclusion is a pervasive attitude that accessibility means more than physical barriers and the cost of removing those barriers.

An institution can insure program accessibility by providing reasonable accommodations. Too often, university programs create a disadvantageous or advantageous situation for a student with a disability. Classroom testing, for instance, can always create a distinct disadvantage for the student with a disability, yet it may also provide the student with an advantage. A properly devised alternative testing arrangement policy levels the playing field, allowing the student to compete in the classroom; in effect, it ushers him or her into the game.

As most students with disabilities can take course examinations in the usual manner, a student with a disability should usually be considered just like any other student. From time to time, however, a student in a class may need to arrange an alternate method of taking examinations because of a physical or perceptual impairment; the student would face a competitive disadvantage if he or she were required to take tests under typical classroom conditions.

An alternative testing arrangement is a reasonable accommodation for this kind of student. For example, a student with a visual impairment or a learning disability may need to have tests presented aurally, such as on audio tape or read aloud; a scribe may write the student's answers on an Optical Mark Recognition (OMR) sheet or on paper. Another student with low vision may prefer to take the exam using a Visual-tek (V-tek) machine that magnifies the words, while a student with a disability that limits the use of hands, such as lupus or quadriplegia, may prefer to dictate answers to a voice-recognition computer or an audio tape recorder. A student with a psychiatric disability may need extended test time to overcome anxiety. The most important consideration is that the test is focused on determining the student's understanding of course content and is not a test of a disability characteristic. Alternative testing should be available to any student whose disability affects performance.

Eligibility and Determination

Students who request alternative testing should register with the campus unit responsible for university compliance with the federal mandates for inclusion. Each institution has such an office, but the name may vary; often it is called Disabled Student Services or Programs for Students with Handicaps. A professional staff person in the unit can assess the student's needs and recommend alternative testing arrangements. The staff person bases his or her determination on the student's documentation, which is filed in the unit. In addition, personnel usually conduct an individual intake, assessment, and evaluation of the student's needs, identifying potential barriers. The professional staff person reviews factors including whether the disability characteristic would place the student at a competitive disadvantage if he or she were tested under regular classroom conditions.

Not all students with disabilities register with the compliance unit; faculty members should refer any student who might benefit from the services of that office. Far too many students go unnoticed and are not referred because of a hidden disability. All faculty should announce the existence of the office for students with disabilities as a routine in the first week of classes, including its location and phone number. Many students with disabilities register with the compliance office but neither request nor require alternative testing arrangements. Only those at a distinct disadvantage in a typical testing situation require alternative testing accommodations.

The professional staff of the compliance unit, not the individual instructor, is responsible for making the determination for alternative testing arrangements after documentation has been reviewed and an assessment interview with the student has been conducted; an individual faculty member should not attempt to assess alternative testing arrangements for a student. The faculty person should consult with the professional staff of the compliance office about its appropriateness before instituting a testing accommodation. A student's documentation of a disability characteristic remains confidential. Unlike teachers in primary and secondary school, a faculty person in higher education should not have access to either the documentation or the exact nature of the disability characteristic of the student. That information could allow for blatant or subliminal discrimination against the student and affect his or her success in the course. Even a well-meaning faculty person may inadvertently provide an advantageous or disadvantageous accommodation; for example, if the student has a hidden disability characteristic, a faculty member may not believe that the disability exists or that it inhibits performance. At other times, the faculty member may suggest an accommodation procedure based on sympathy that, in effect, provides the student with an unfair advantage.

Location

Some campuses provide an alternate testing site equipped with adaptive equipment, test monitoring capabilities, and trained staff. The facility usually informs individual academic departments of its policy for alternative testing. If an instructor makes corrections or interpretations during the exam, he or she must remember that the student at the alternative testing site needs that same information; the student could be at a serious disadvantage without it.

Other campuses have a limited central facility with some adaptive technology and only a limited staff. Whatever the situation, most alternative testing is fairly simple. A faculty member or a department can administer the test. For example, a faculty member could arrange for extended time or provide a reader or scribe. A student with Attention Deficit Disorder (ADD) may need a quiet place, while one with Attention Deficit Hyperactivity Disorder (ADHD) requires a private space. Individual academic departments can make these arrangements within departmental offices. These accommodations allow the student to avoid distractions that might be unbearable in a classroom or to move around during testing if needed. Academic departments might consider investing in a white noise machine, which masks noises that may distract a student during testing.

Testing Components

Alternative testing methods vary as much as the disabilities and abilities within each disability grouping. One student with a visual impairment, for example, may need to use a hand-held magnifier during an exam; a student with a visual impairment may need to use a synthesized computer located in a central complex. Each accommodation must be specific to the student, not a general disability characteristic accommodation. Some of the most common testing accommodations are adjusted time limits and the provision of readers, scribes, and assistive technology.

Adjusted Time Limits

Adjusted testing time is the most common type of reasonable accommodation for a student with a disability. Nevertheless, faculty members should not presume that a student is eligible for time adjustments simply because he or she has a disability; not every student with a disability requires extended time. The professional staff of the compliance unit determines the accommodation after a review of the individual's disability characteristic and documentation. The student may use adjusted time if, and only if, he or she will experience a disadvantage if required to perform within the same time limit as the rest of the class.

Most often, if a student faces a disadvantage in a testing situation because of time, an extended time limit is recommended. Extended time recommendations range from an additional 15 minutes to double the amount of time allotted for other students to take a test. Again, the professional staff person who is qualified to make this type of assessment determines the time allotment. The majority of students who need extended test time have no trouble finishing an exam in double the amount of time. All students, whether they have disabilities or not, may experience less test anxiety when they know that extra time is available to them if they need it. Students with psychiatric disabilities may be better able to concentrate on the content of the exam if they know they have extra time. As a rule of thumb, if a student needs another person or if some form of technology is required by the student to complete an exam, extended time is a reasonable accommodation.

Students with disabilities do not necessarily require any form of adjusted time. A student with paraplegia, for example, would not ordinarily be eligible for time adjustments during testing. The disability in this case does not cause the student to be at a distinct disadvantage in a written testing situation. However, if a student with paraplegia also has a documented impairment such as Attention Deficit Disorder (ADD), a doubled amount of time to complete a test may be a reasonable accommodation because a student with ADD may be easily distracted and need extra time to complete an exam. If a student uses an assistive device that necessarily slows the process of providing test answers, he or she should have extra time. V-tek magnifiers, tape recorders, voice-activated computers, and voice synthesizers all require extra time. Time is also extended when a reader or scribe is required to complete the test. On the other hand, a student who is deaf will not require extra time or other accommodations (such as an interpreter) on a written exam. For the most part, an individual department or instructor can provide adjusted time as an accommodation.

Scribes and Readers

A scribe writes or types for a student who cannot because of a disability; a reader speaks written words for a person who is unable to do so. The reader or scribe accommodation can take place in real time or before or after the testing situation. Sometimes readers record tests on audio tape for later administration. The scribe and/or reader does not take an active role in the testing situation beyond writing, reading, or recording; no explanation of terms or rephrasing is permitted. The scribe or reader should never make a comment regarding the test or give any other input.

Whether an instructor or a department or an official at a central unit administers the test, a reader or scribe should meet certain requirements. Another student in the course, a relative, a friend of the student, a note taker, or any other person who might have an impact on the test results should not scribe or read an exam. If the student is provided a reader or scribe, extended testing time is recommended.

Assistive Technology

Many students with disabilities require assistive technology to complete an exam. Technological apparatus includes talking calculators, V-tek print magnifiers, tape recorders, and computers with adaptive hardware and software such as speech recognition and screen-reader systems. The student who uses assistive technology for a testing situation should be afforded extended time. Some of the equipment can be used in the regular classroom and testing environment; at other times, the nature of the equipment will require that the student take the exam at a separate time and place from the rest of the class. Size and portability of the equipment are obvious elements in providing this accommodation.

Alternative Exam Formats

There have always been some students who express a clear preference for a particular test format. Some prefer essay and some prefer multiple choice. Preferences aside, the format of a test can place a student with a disability at a serious disadvantage. A student with memory loss from a head injury, for example, may have a very difficult time with a multiple choice exam, while a student with a learning disability may be unable to compose an essay. Both of these students, however, may perform well in some other format. They will require the instructor to find a suitable means for testing knowledge of the material. Students with a disability have usually found a format that best suits their needs by the time they arrive in the college classroom. The professional staff of the compliance office will have made that assessment and will recommend a style to test adequately but not disadvantage the student. Some students, for example, provide oral responses on audio recordings or in person. A student with memory deficits from a brain injury (BI) may need to have the test split into sections and taken at different times.

Advantages

A word of caution is in order. A faculty member is required to provide alternative testing procedures to allow students with disabilities to compete in the classroom. However, students will be students; some will try to take advantage. In doing so, students with disabilities are no different from other students in the classroom. It is a naive faculty member who, out of a sense of sympathy, believes that all students with disabilities need an advantage, or that students with disabilities are incapable of cheating.

Conclusion

Under the law, a university must provide reasonable accommodations for its students with disabilities. Alternative testing represents one component of a system required to provide a student with a disability an equal opportunity to become involved in the total university experience. The university, however, cannot guarantee the success of any individual student, disabled or nondisabled; ultimately, each student is responsible for his or her success or failure. The university is responsible for eliminating barriers that have guaranteed failure for some students in the past. A student has the right to reasonable accommodations; the university must acknowledge and observe that right by providing various testing accommodations that level the playing field. The student with a disability comes to the classroom and to testing situations with qualifications similar to other students; he or she may simply do things a little differently. Whatever test procedure is adopted, it is important that it measure the student's knowledge of the course content and not a disability characteristic.

CHAPTER NINE

Lessening Stumbling Blocks to Retention Through Accessible Academic Libraries

Donna Z. Pontau

More contemporary freshmen disclose a disability than ever before. Statistics show that nearly one in every 11 full-time, first-time college freshmen reported a disability in 1991 as compared to one in 38 in 1978. Freshmen with disabilities, along with their older colleagues, have become a significant minority due, in part, to expanded support service programs, better adaptive technology, and more access to K-12 educational opportunities and instruction (Hartman, 1992). Whatever their age, background, or degree of disability, freshmen must compete successfully in the classroom.

Negotiating the transition between high school and college is challenging; the freshman year is a major stumbling block for many students. Freshmen must abandon many of their high school habits and quickly develop "new patterns of self-discipline, intellectual exploration and behavior" (Frost, 1993) as well as relationships with fellow students, faculty, and others. In the past, academic libraries have not been very accessible to persons with disabilities because of physical barriers, print-format collections, difficulty in communicating with staff, negative staff attitudes, and barrier-full programs; this inaccessibility has naturally discouraged many students from using a library.

Professional library literature has focused on students with physical disabilities, including blindness, and on facility accessibility rather than program, collection, or service accessibility. An excellent overview of research concerning all types of libraries and persons with disabilities can be found in *Advances in Library Administration and Organization* (Karrenbrock & Lucas, 1986). An early article on services in academic libraries for students with disabilities was published in the *Journal of Academic Librarianship* (Needham, 1977), and an issue of the *Reference Librarian* (Huang, 1989) was devoted to services for "disabled individuals" in academic libraries. Two other selections focusing on the accessibility of academic libraries for students and employees with disabilities were published in the past two years (Pontau, 1991/92, 1994).

Recent research on information-seeking behavior has investigated academe and persons with specific disabilities: *Information Seeking Among Members of an Academic Community* (Reneker, 1992), *Academic Information Needs and Information-Seeking Behavior of Blind or Low-Vision and Sighted College Students* (Brockmeier, 1992), and *The Effect of Study Skills Instruction on the Study Strategies and Attitudes of College Students with Learning Disabilities* (Ebrahimian, 1993). Reneker's research focused on the link between need and environment, while Brockmeier's research demonstrated this link as well as the similarities in information-seeking behavior between students who were blind and those with sight. Ebrahimian discovered that students with learning disabilities improved their study skills through participating in existing courses just as well as they did in courses tailored to their needs. I am presently engaged in a qualitative research project concerning college students with all types of disabilities throughout the United States. This data on information-seeking behavior and library use should allow better decision making about improving accessibility to services, programs, and collections.

Preliminary results based solely on interviews of students at San Jose State University in California revealed the struggles that thwart information seeking and library use. Students were frequently in conflict between needing information and enduring the hassles to get it; their struggles caused avoidance and procrastination, encouraged simplistic research approaches and low expectations for success, and inhibited self-reliance and independent inquiry. Students commonly used words such as "overwhelming," "formidable," and "intimidating" when referring to the library; they exhibited high anxiety levels, especially about computers. One student commented, "When I do get an assignment or project where I'll have to use the library, the first thing my anxiety level goes up to . . . if it's ten normally, it goes up to 310!" They experienced great fear of failure and low self-confidence pertaining to library research; many displayed reluctance to explore or take risks in using information tools. Once a student successfully used one resource—MEDLINE on CD-ROM, for example—he or she rarely sought out other sources; in short, the students stayed with what they believed worked for them. They were reluctant to expend more energy or time exploring a new resource on their own. Their expectation was that it would not be worth the effort or frustration (Pontau, 1993).

Many library users lack the courage to explore new resources, but students with disabilities often feel an unwillingness to ask for assistance from librarians or other library staff in addition to the usual disinclinations. Students with visible disabilities (e. g., those using a wheelchair or cane) were reluctant to ask for help, and students with invisible disabilities, such as emotional or learning disabilities, rarely felt comfortable disclosing their disabilities. Numerous San Jose State students with invisible disabilities chose not to talk about their disabilities even when it prevented them from using specific services which had been developed to assist their efforts.

Many students' reluctance or refusal to ask for help resulted from ineffective or degrading interactions with librarians or library staff in other settings. Two student comments illustrate this point: "Someone said, 'Go read that.' I said, 'If I could I wouldn't be asking you the question!'" and ". . . if I go up and ask a question of somebody, it's because I need an answer . . . Sometimes I think people think 'Oh, this guy's just lazy.' Every once in a while I say, 'I don't want to do this because I don't want to go through that'" (Pontau, 1993). Because of experiences like these, most students expressed an intense desire to blend into the general student population as much as possible. According to one student, "People with disabilities like to blend into the wall . . . They don't want to be recognized by their disabilities. They want to be known as 'Judy' or 'Henry'" (Pontau, 1993).

The San Jose State students with disabilities who were interviewed desired independence and self-sufficiency intensely; "I want to be able to do it myself" was a frequent comment. The students acknowledged the importance of information in their course work and lives and wanted to improve their library skills and library literacy. They commented on their feelings of liberation and creativity when adaptive technology increased their independence. One graduate student with low vision described the distinction between working with a human reader while using the library versus using an adapted online catalog workstation: "I don't know how to explain it . . . when *I'm* sitting at a keyboard—it's like I'm a different person. It's like my brain must turn on or something!" Students who were brave enough to experiment with some of the San Jose State University Library's adaptive technology became excited, more self-confident, and more persistent in their research efforts (Pontau, 1993).

The stumbling blocks all freshmen face are magnified and compounded when a student has a disability. Resource inaccessibility, inadequate library literacy, and a reluctance to try new sources or research strategies hamper the intellectual exploration needed to achieve academic success. Self-discipline and personal responsibility are stunted when independence is limited because library buildings, collections, services, and programs are inaccessible. New relationships, especially those with potential mentors, are stifled when staff attitudes and/or ignorance offend, discourage, or anger freshmen with disabilities. The students are deterred from effective use of the library, its resources, and the expertise of its personnel.

Library Accessibility

Library accessibility does not come overnight; rather, it occurs in small steps after an evaluation of facilities, policies, service points, collection formats, and the skills and knowledge of library staff. Money is often not the major barrier to progress towards accessibility. The key to success is an institutional philosophy of and commitment to full inclusion of students with disabilities. Adaptive technology costs money from an equipment or operating budget, and facilities upgrades and signage require funding from a campus or system; but most accessibility improvements are people-related. Increased awareness through training of all staff and adjusted workload or job assignments for some staff members can greatly improve accessibility. The allocation of library personnel resources is directly related to the institution's commitment to achieving and maintaining accessibility for all college students with disabilities.

Many academic libraries appoint a liaison, who is often a reference librarian, to address accessibility concerns and to communicate with students, faculty, and staff with disabilities. Some libraries, such as the one at the University of Alabama, establish a committee, while others, such as the one at Oregon State University, appoint a librarian to serve as the library's representative on a campus-wide Americans with Disabilities Act compliance committee.

The specific activities of liaisons vary from campus to campus, but some similarities exist. First, most academic libraries are improving accessibility to electronic resources. Adaptations for the online catalog and CD-ROM workstation remain a high priority, but adaptation is difficult because numerous electronic files such as NEXIS/LEXIS and CARL Uncover are mounted on different workstations, each of which needs adaptation. Successful interface between the software running the library products and adaptive software to create large print, voice, or keyboarded input and output is also problematic. The libraries at the University of Texas at Austin and the University of Wisconsin-Stout are noteworthy for their computer adaptations (Neville, 1993; Jax, 1993). Since many students have computers adapted for their unique needs at home, library liaisons also promote remote, dial-up access options. Communication via e-mail about systems, research strategies, and other types of reference questions is being explored and utilized.

Secondly, many liaisons working on accessibility issues are revising or developing pertinent library policies. Numerous libraries have written service policies establishing customized services such as paging, proxy borrowing, and photocopying. At the 1994 American Library Association Annual Conference, the Academic Librarians Assisting the Disabled Discussion Group (ALAD) of the Association of Specialized and Cooperative Library Agencies (ASCLA) division devoted its meeting to a discussion of appropriate safety and evacuation policies and procedures. Liaisons are pursuing changes which make their libraries more inviting, hospitable environments for students with disabilities. Efforts to improve accessibility and safety make libraries more comfortable, secure places.

Thirdly, liaisons spend time and energy on staff awareness and education about disabilities. As is evident from the students quoted earlier, the quality of interactions with staff strongly influences the impression freshmen have of the library. Staff awareness activities can include participating in brown bag lunch discussions, routing appropriate articles and news items, viewing videos such as *People First* (Library Video Network, 1990), attending workshops, and reading guides developed for faculty. Two recent reference guides for faculty are *College Students with Disabilities: A Reference Guide for Faculty* (Minnesota Community College System, 1993) and *Dispelling the Myths: College Students & Learning Disabilities,* which was produced at Hunter College (Garnett, 1991).

Finally, but perhaps most importantly, the liaison serves as the library contact person for freshmen with disabilities. Staff counselors at the campus disabled student services program or office can refer a new student to the liaison for one-on-one library assistance. This contact can create a bond which helps the student establish the view that the college or university does indeed have "a caring and concerned faculty and staff" (Wiseman, Emry, & Morgan, 1988). Research carried out by Wiseman, Emry, and Morgan indicates that students with disabilities achieve greater academic success when they feel personally connected to and accepted by the university community. These results parallel those generated about entering college freshmen in general (Frost, 1993). Relationships established between freshmen and the liaison have an additional value in that they can be tapped later for advice about new library equipment, materials, services, and library instruction/ library literacy efforts.

Expanded Library Instruction and Literacy Programs

With accessibility comes the opportunity for independence in the research process. Consequently, the library literacy skills of freshmen with disabilities must receive serious attention. The library skills of incoming freshmen vary, but many find an academic library intimidating; a college or university library is always larger and more difficult to negotiate than a high school library. A college or university library collection is more extensive and complex in its types of materials, and research tools such as catalogs and indexes are more numerous and are frequently computerized.

Freshmen with disabilities experience the same difficulties as other freshmen when using academic libraries. They must learn the difference between primary and secondary sources; the basic methods for searching online catalogs and databases; the importance of critical thinking skills when selecting sources to include in an assignment; and academic library services, policies, and procedures (George, 1988). College freshmen with disabilities may initially face even more confusion or uncertainty because they have had fewer opportunities for independent library use in inaccessible libraries.

Specific Activities to Promote Library Literacy

Promotion of library literacy among all students can also benefit freshmen with disabilities. For example, some academic librarians actively participate in campus freshman seminar or freshman orientation courses. The library components of these orientation courses aim to introduce the library, present basic information resources, and facilitate the students' use of critical thinking and evaluative skills. Freshmen with disabilities are mainstreamed into University of South Carolina classes (Gardner, 1986); other schools with similar orientation programs develop separate sections in order to focus on particular techniques and equipment applicable to particular disabilities (Hameister, 1989).

There is growing discontent with traditional "one-shot" group lecture instructional methods, term paper conferences, and appointments with subject librarians. The library at Northern Illinois University (NIU) has experimented with Library Research Clinics for honors students and educationally disadvantaged students; the approach might also be successful with students who have disabilities. The program goals are to "meet one time with each student, tie the instruction to students' term paper topics, cover a standard list of library resources, interact with students using individual teaching styles, and ensure that students [are] sharing a common experience" (Becker, 1993, p. 204). Pairs of students in an English course schedule appointments with librarians, who offer them hands-on practice with library tools (Becker, 1993).

The NIU program relates directly to the elimination of two traditional stumbling blocks. The major staff investment helps establish the personal contacts and connections which are vital to freshman success; the hands-on component increases exposure and understanding of particular sources and their applicability to particular kinds of inquiries. The hands-on component also raises student self-esteem and confidence in using resources, the traits that interviews showed were lacking in students at San Jose State University (Pontau, 1993).

Whether an academic library's instruction program consists of experimental or traditional "one-shot" sessions, organizers must consider practical issues to insure participation and comprehension by freshmen with various disabilities. For example, the handouts distributed during presentations must be available in alternate formats (e.g., large print or audiotape); overhead computer displays should permit magnification, and transparencies should use large, clear type. Such modifications aid freshmen with low vision or certain learning disabilities. FM systems, wireless sound-amplification systems with which a speaker wears a microphone and listeners wear headphones, should be available during the presentation to aid comprehension by freshmen with hearing loss. When the library schedules or promotes presentations, students should be alerted that sign language interpreters can be scheduled with prior notice. Organizers should ensure that all rooms are wheelchair-accessible and well lighted, with plenty of accessible seating near the front; nearby elevators and bathrooms must also be accessible. When faculty members initiate a lecture request, they should be asked if any of their students have disabilities. If computer labs are utilized, at least some workstations must be adapted. Lab and/or instruction manuals must be available in accessible formats. Forms, facilities, and procedures should be examined for possible improvements in accessibility.

Clearly, accessibility, independence, support, and student success are interrelated. More accessible and effective library instruction programs bring greater independence and perceptions of institutional "caring." Better library skills can translate into better papers, better grades, and, ultimately, graduation.

Reference and Information Services

It is highly improbable that research and academic success can be attained without at least some contact with library staff. These interviews clearly illustrate the difficulty students with disabilities have in asking questions. The difficulties, plus the strong negative impact if encounters with reference librarians or other staff members are unpleasant or nonproductive, should not be underestimated. The traditional reference interview can be improved to lessen the trauma. In addition, the changing reference paradigm affords new opportunities and options for providing improved reference and information services to all clients, including freshmen with disabilities.

Interactions with library staff are enhanced as those staff members become more aware of proper etiquette and appropriate techniques to use when working with students who have disabilities. For example, one needs to understand that a wheelchair is part of the user's space; one should not touch the chair or stand too close to it.

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Conflict is especially common for freshmen with invisible disabilities. Too often reference librarians and other staff members interpret simple, obvious requests as laziness and answer them brusquely. Such answers induce strong, negative reactions from the students and discourage return visits. Library staff members can become alert to clues which may indicate an undisclosed disability. Someone wearing sunglasses indoors, for instance, may have poor vision; a student taking notes with different colored pens may be coping with a learning disability. One closely watching mouth movements may be speechreading, while a student who repeats the same question several times may have trouble tracking or remembering sequences. If reference department and other library staff wear better "antennae," they can increase the likelihood that a freshman with a disability will have a positive experience.

Freshmen with disabilities who use a library in the next decade may find reference services much improved from what their counterparts discover today; a more customer-focused service paradigm is emerging. Reference librarians are investigating alternative methods to meet the needs of various patron groups (Lipow, 1993). For example, posing questions via e-mail and voice mail may minimize the potential communication barriers at a reference desk. Private reference appointments may become more prevalent. Properly handled, such prearranged, intimate sessions may entice freshmen to divulge disabilities in order to receive assistance. Library services in the future may be tailored to match individual strengths and weaknesses rather than taking a "one type of service fits all" approach. Instead of being thwarted in their attempts to locate information, freshmen with disabilities may confidently and independently manipulate resources inside and outside the library's walls and communicate with staff in a variety of modes.

Conclusions

A college education develops a student's mind and prepares him or her for a successful position in the workplace and the world at large. Students with disabilities need the same opportunities as other students for personal discovery as well as preparation of class and research assignments. Library accessibility is of paramount importance. Providing for accessibility is not granting special favors; rather, it enables students to accomplish the same goals other students have. Improving overall library accessibility, modifying existing library instruction programs, and increasing awareness and sensitivity among library staff all help eliminate the common retention stumbling blocks for freshmen with disabilities. As reference and information services evolve to a more customer-focused paradigm, more and more new students with disabilities will find themselves welcomed and well-served in the library.

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CHAPTER TEN

Building Bridges for Institutions of Higher Education:

Assistive Technology Resources

Robbie Ludy
and Merv Blunt

Today, more than ever before, individuals with disabilities are entering institutions of higher education. Along with clothes, CD players, and calculators, these incoming students bring a unique set of needs which challenge those schools that have accepted them as part of the student body. Often colleges and universities have had little or no experience in identifying and serving students with diverse physical and learning needs. By accepting students with special needs, institutions have an ethical as well as legal obligation to provide an educational experience equivalent to that provided for regular students. In an effort to fulfill this obligation, campuses are exploring and developing innovative ways to meet the unique learning needs associated with this new population.

Although their presence has been small, individuals with disabilities are certainly not strangers to college and university campuses. Since World War II, returning veterans have challenged institutions to provide facilities and programs to meet their needs. Note-takers, readers for individuals with visual impairments, and structural modifications to facilities represented only a few of the accommodations provided by some institutions. Services were frequently limited in both quantity and quality, and usually focused on the physical facility rather than on the learning needs of the particular student. It was not unusual for the individuals who were responsible for delivering services to have little training and few educational experiences with people who had disabilities.

As institutions of higher education became more accustomed to having students with orthopedic or visual disabilities, they realized that many of those same services could be geared toward an expanded population. Entering classes began to take on a new guise; membership was made up of increasing numbers of students with learning requirements that went beyond physical needs (e.g., older students returning to school, international students with limited English skills, students without extensive educational experiences because of their limited finances). Colleges and universities developed new support systems and expanded existing programs such as tutoring and student mentoring. New programs were developed to provide specific instruction in learning strategies as well as to enhance the students' previous educational experiences.

In the 1970s, the federal government passed two significant pieces of legislation related to individuals with disabilities: the Rehabilitation Act of 1973, particularly Section 504 (U. S. Office for Civil Rights 1991), and the Education for All Handicapped Children Act (P. L. 94-142). These sweeping reforms brought the needs of students with disabilities into the national spotlight; the public became increasingly aware of the inequity of educational opportunities available to individuals with disabilities as compared to other students. As states and local school districts hastened to provide appropriate educational programs and services within the public schools, the number of students enrolled in special education programs rose dramatically. Today, an increasing number of students with disabilities meet all requirements and graduate from public schools.

As students with disabilities progressed through public schools, they and their parents came to expect specialized services and accommodations; this attitude continued as they began to search for postsecondary education programs which would provide the necessary education to help them achieve life goals. The demand grew for programs in higher education that would meet their learning and physical needs. Additional pieces of legislation such as the Americans with Disabilities Act of 1990 (ADA), and a reauthorization of P. L. 94-142, now called the Individuals with Disabilities Education Act (IDEA), supported demands for equal opportunities in education.

Today, partly as a result of public demand, postsecondary institutions accept increasing numbers of students with disabilities and explore varied and innovative ways to meet their educational and life needs. More institutions are making a commitment to blend mandated and optional services, creating a rich and successful environment for all their students (Murphy & Loving, 1987). Provision of appropriate assistive technology is one way to fulfill the promise.

Assistive technology is a broad term used to describe both devices and services which increase, maintain, and improve the functional capabilities of individuals with disabilities. Congress acknowledged the potential of assistive technology to empower persons with a wide range of disabilities when it passed the Technology-Related Assistance for Individuals with Disabilities Act of 1988 (P. L. 100-407), also referred to as the "Tech Act." The Tech Act was the first legislation ever passed by Congress which not only expanded the availability of assistive technology services but also placed emphasis on consumer needs.

In March 1994, President Clinton signed the reauthorization of the Tech Act, which calls for consumer responsiveness and system change along with legal advocacy to develop and implement statewide programs of technology-related assistance for individuals with disabilities. The reauthorization continues financial assistance to states for the purpose of supporting advocacy activities and changes in existing delivery systems. Specific emphasis is given to reaching and supporting unserved, underserved, and rural populations.

As noted earlier, assistive technology is a term which refers to both devices and services developed to promote the functional capabilities of individuals with disabilities. The Tech Act defines an assistive technology device as "... any item, piece of equipment or product system, whether acquired commercially off the shelf, modified, or customized, that is used to increase, maintain, or improve functional capabilities of individuals with disabilities" (20 U. S. C. Chapter 33, Section 1401 [25]). The devices encompass a wide spectrum of technical sophistication. The flexibility and diversity of assistive technology are exemplified in the fact that it includes items such as voice-output communication devices, electric wheelchairs, door knob turners, magnifiers, large screen computers, and playing card holders. All of these devices enhance the quality of everyday life, promote participation in society, and indirectly affect all of society (Blackhurst & Shuping, 1991).

Assistive technology also includes services to and for persons with disabilities. The legal definition of assistive technology services as it appears in the IDEA and ADA is "any service that directly assists an individual with a disability in the selection, acquisition or use of an assistive technology device." These services include but are not limited to: information and referral assistance, training for consumers (including family members) and service providers, equipment exchange programs, development of guides and materials, and peer support groups. The Tech Act mandates that information related to assistive technology be made available to all interested persons.

The Tech Act made discretionary funds available to all states to facilitate the development of consumer-responsive, statewide, technology-related projects. In 1989, a state grants program was established to serve as a catalyst for the development of state projects across the United States and its territories. Through a competitive award process, states are awarded grants for three years. At the time of this writing, 49 states, the District of Columbia, Puerto Rico, and American Samoa had successfully competed for funds under this act and established nationally approved projects, which are administered by the National Institute on Disability and Rehabilitation Research (NIDRR). A directory of state assistive technology projects appears in Appendix B.

State projects show great diversity in the implementation of national guidelines and carry out a variety of authorized activities. Projects develop their structure and determine activities to meet the needs of individuals within their states. State projects must make assistive technology services available to all individuals with disabilities, regardless of age. Activities include, but are not restricted to, statewide needs assessments, training programs to promote awareness, development or expansion of a system for public access to information and referral, cooperative interagency agreements, and development of model delivery systems. States receiving federal funding have developed diverse delivery systems; for example, Kansas delivers services through a multi-site program, whereas Missouri utilizes a central location as its primary delivery system while supporting satellite demonstration sites.

As we have noted, public schools have a longer history of providing educational services to a larger and more diverse population than do institutions of higher education; many public schools have been proactive in seeking and developing assistive technology for their students. Now that many of those students are entering postsecondary education programs, institutions of higher education must become more aggressive and innovative in finding ways to meet their needs, including the need for assistive technology.

Utilization of state assistive technology programs is a vital component in combining educational services and assistive technology. As noted earlier, state assistive technology projects are designed to assist individuals of all ages. Institutions of higher education can obtain valuable information about ways to serve their students by contacting the state's assistive technology project.

Although specific information and assistance varies from state project to state project, colleges and universities should look to state projects for help. Examples include how institutions can meet the accommodation requirements specified by the Americans with Disabilities Act; how computer accessibility can be promoted, including selection of necessary software and the adaptation of hardware such as expanded keyboards, touch screens, and braille displays; and how people can use environmental controls such as remote control switches, velcro attachments, and pointer sticks. Information can be obtained concerning augmentative communication such as electronic communication devices and speech synthesizers; assistive listening such as telecommunication devices for people who are deaf or speech impaired (text telephones), closed caption television, and sound field FM systems (wireless sound enhancers with which presenters use a microphone and listeners use headphones); aids for those who cannot read regular print such as large print books, brailled materials, and cassette tape recordings; and mobility guidelines.

Information available from state projects is not restricted to the academic. State project staff members can suggest modifications of residential and/or student life activities which potentially help students become active members of the educational community. Such modifications allow students with special needs to move from having only physical accessibility to classrooms to having cultural access to all campus activities (Murphy & Loving, 1987).

The examples provided are not exhaustive; they are intended to serve as a starting point for institutions of higher education when they contact their state's assistive technology project. Campuses should utilize collaborative decision making and committee processes within their institution to determine local needs. They should seek the assistance of state projects' staff members in developing training programs for faculty, administrators, and staff (Edyburn, 1991).

Each educational system has ethical and legal obligations to provide equal learning opportunities for all students accepted into its programs. As institutions develop programs and explore solutions to the challenges brought by students with disabilities, they must utilize resources, including those beyond their campus. If the past 25 years can be used as a yardstick for technological advancement, the next 25 hold great promise for the student with disabilities (Murphy & Loving, 1987). Colleges and universities must cross the bridge to assistive technology resources available within their states so that they can provide the highest quality of education for all students.

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CHAPTER ELEVEN

The Legal Perspective: Higher Education and Students with Disabilities

Rosvelt Martain, Jr.

To quote Forrest Gump, "Life is like a box of chocolates, you never know what you're going to get" in college (*Forrest Gump*, 1994). As the story goes, Forrest Gump received an athletic scholarship to the University of Alabama because of his running ability. While Tom Hanks' movie character captured the hearts of millions, in reality, Forrest Gump would not have qualified for regular admission to college or graduated because of his mental retardation. But Forrest Gump was correct about college: At the postsecondary level, students with disabilities do not "know what [they're] going to get." Services and academic accommodations are likely to be different at each college. The right to a free, public elementary and secondary education is mandated, but postsecondary education is a privilege, not a right. Unlike public schools, postsecondary institutions require students with documented disabilities to meet general admission requirements and technical standards set by many degree programs. Public schools, on the other hand, view all students as eligible and qualified to a free public education despite disability under provisions of the Education for All Handicapped Children Education Act (now Individuals with Disabilities Education Act) and state constitutions.

Several differences exist in the scope and delivery of services for students with documented disabilities. Both Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990 play significant roles in the services provided by public schools, but the Individuals with Disabilities Education Act and its predecessors most specifically apply to access to school and classroom instruction. Each of the three laws mandates different services and academic accommodations for students with disabilities in their respective educational systems, and the ADA extends beyond the classroom.

This chapter examines the legal perspective of providing reasonable accommodations for students with disabilities who attend postsecondary institutions. It also reviews the major differences service providers, parents, and students should consider as they plan for the transition from high school to college. Issues related to the Individuals with Disabilities Education Act such as self-contained classrooms, resource rooms, and inclusion in elementary and secondary school are discussed. I examine in detail the provisions of Section 504 of the Rehabilitation Act and the Americans with Disabilities Act (ADA) in order to explain specific services and academic accommodations available in higher education, and compare and contrast these provisions with those of the Individuals with Disabilities Education Act. The chapter then clarifies the new parameters created by the ADA. The level and type of services and academic accommodations parents and students find in college differ greatly from those found in high school.

Rehabilitation Act of 1973

The Rehabilitation Act of 1973 predates the Education for All Handicapped Children Act and represents the first major attempt by the federal government to protect individuals with disabilities. Since 1979, public colleges and universities as well as private institutions which receive federal funds have been regulated by Section 504 of the Rehabilitation Act of 1973. Because these institutions have 17 years' experience with the regulations which now affect other sectors under ADA, they are excellent resources for the sectors which were not affected by Section 504. The Americans with Disabilities Act, however, requires many services and academic accommodations not required by Section 504. Case law generated by Section 504 illustrates the evolution of new access initiatives regarding specific "reasonable accommodations" in higher education; section 504 legal challenges provide valuable insight into potential ADA challenges.

Case Law History

One of the earliest access cases heard under Section 504 dealt with the college-funded provision of interpreters to a student who was deaf at a private college. In *Barnes v. Converse College* (1977), a Federal District Court in South Carolina found that a private institution which receives federal funds falls under the provisions of Section 504. As a federal recipient, Converse College was responsible for providing necessary auxiliary aids and services, such as sign language interpreters. Essentially, the court stated that Converse College could not deny reasonable accommodations because the accommodations might be expensive to provide. *Barnes* (1977) set an important precedent because it involved a private school and looked at the entire budget of a college rather than at a single program's budget.

In the first Supreme Court case which challenged Section 504, a student who was deaf was found ineligible to pursue a nursing degree. *Southeastern Community College v. Davis* established a definition for "otherwise qualified," holding that there were no "reasonable accommodations" that could be provided to allow the student to perform all the "essential functions" involved, including assurance of patient safety. To be eligible for any accommodations, students must be qualified and must not pose any health or safety risks. The Court also established guidelines in *Davis* (1979) for what constitutes "a substantial change in an essential element" of the degree program.

The legal intent of Section 504 was to require that "auxiliary aids and services" be provided to schools at no cost to students through a network of state vocational rehabilitation and private agencies. Unfortunately, this network has served postsecondary institutions inconsistently since the issuance of Section 504 regulations. In some states, agencies have claimed that they are not a source of primary assistance, while in others, eligibility requirements have precluded graduate students from receiving funding. The question of who bears primary responsibility for providing auxiliary aids came before the court in *Jones v. Illinois Department of Rehabilitation Services* (1981/1982).

In *Jones* (1981/1982), the Supreme Court considered who should pay the primary cost of providing interpreter services for a deaf student enrolled at Illinois Institute of Technology (IIT). When IIT notified the student that his interpreter services would be stopped, he sued both IIT and the Illinois Department of Rehabilitation Services (DRS), where he was a client, claiming that the termination of interpreter services violated Section 504. After a thorough analysis, the court found no statutory or regulatory bar to payment by DRS for interpreter services at an institution of higher education. The court held that state and private agencies must provide the bulk of auxiliary aids required by their clients; the college or university is not responsible for the cost. Based on these arguments, the district court concluded that DRS bore primary responsibility for providing interpreter services to its client, the student.

On appeal, the Seventh Circuit Court upheld the lower court's ruling. The Seventh Circuit Court, however, also noted that IIT was responsible for providing auxiliary aids and services to students who were not clients of DRS. It was only the student's eligibility for vocational services which shifted primary responsibility for providing interpreter services to DRS. It would appear that *Jones* (1981/1982) would enable postsecondary institutions to reduce cost and legal liability for funding when students are clients of state or private agencies, yet funding remains a point of contention between colleges and universities and agencies because of a loophole in the legal interpretation of Section 504. Until political pressure changes state agencies or the Supreme Court interprets the ambiguous language of Section 504, the costs of funding auxiliary aids will continue to be deferred to postsecondary schools.

Education for All Handicapped Children Act

PL 94-142 does not apply to postsecondary schools, but I discuss it here because many new college students with disabilities are accustomed to its provisions and may expect the same provisions in college. The Education for All Handicapped Children Act of 1975, along with its amendments, is unique in several of its provisions. For one thing, it requires that an Individualized Education Program (IEP) be developed, regularly reviewed, and revised for each student. In addition, it stipulates that persons involved in any aspect of the child's special education program be appropriately and adequately trained. The Education for All Handicapped Children Act defines special education as:

> specially designed instruction, at no cost to parents or guardians, to meet the unique needs of a disabled child, including classroom instruction, instruction in physical education, home instruction, and instruction in hospitals and institutions.

The law requires that each student who lives within a given school district have access to a "free appropriate public education" whatever the disability or its degree of severity; a "free appropriate public education" includes "special education and related services." This statutory definition interprets "related services" in the broadest sense; for this reason, public schools are required to provide many services that are considered personal and are denied in college. Unlike school districts, postsecondary institutions have primary responsibility for providing "related services" only as they relate to education.

Personal Services versus Educational Services

The Education for All Handicapped Children Act mandates that all "related services" be available in order for the student to receive a "free appropriate education." Many services and academic accommodations viewed as personal in college are viewed as routine in public schools. For example, in institutions of higher education, computers are deployed exclusively on campus or at field placement locations, not for personal use at home or in dormitory rooms. Services and academic accommodations must correlate directly to the specific types of "reasonable accommodations" provided for individual students.

A second example is the provision of personal care attendants. If a public school student needs the procedure known as Clean Intermittent Catheterization (CIC) every three or four hours so that he or she can get through the school day, the public school is required to administer the procedure (*Irving Independent School District v. Tatro*, 1984). The Supreme Court ruled in *Tatro* (1984) that the administration of CIC is a "related service," not a "medical service" as the school district claimed. At the postsecondary level, administration of CIC is clearly a "personal" service even if the student lives on campus. A college can either help the student find an attendant or allow an attendant to live on campus with the student, but the student must pay all costs.

Delivery Systems

Parents must involve themselves in decision making about which delivery system is best for their children; they must be informed consumers and advocates. The IEP documents and supports the delivery system chosen. Resource rooms, self-contained classrooms, mainstreaming, and inclusion are critical in how delivery systems are maintained in public schools. Students are usually in resource rooms only while studying or working on a problem subject area; they are mainstreamed the rest of the school day.

In actuality, district politics have a great deal of influence over how a school decides where and how services are delivered. Students with severe disabilities are often placed in self-contained rooms or self-contained schools. Students with less severe disabilities are more often included in regular classrooms; some are eligible for services and academic accommodations under Section 504, wherein public schools are required to give priority to the "least restrictive environment" for the student. Still, with overcrowded classes, teachers do not have time to customize instruction for students who need more assistance. Most classroom teachers are not trained to teach students with disabilities.

Americans with Disabilities Act

Public schools and teachers should also remember that Title II of the ADA holds the district and teacher financially liable for the selected delivery system. Modeled after the Civil Rights Act of 1964, the ADA's impact will be just as pervasive and revolutionary. The ADA changes the rules of everything because it not only extends Civil Rights protection to individuals with disabilities but also radically redefines disability by adding two prongs. An "individual with a disability" under ADA is a person who:

- has a physical or mental impairment that substantially limits a "major life activity" [The key word here is *substantially*],
- has a record of such an impairment, or
- is regarded as having such an impairment.

"Major life activities" include functions such as caring for oneself, performing manual tasks, walking, seeing, hearing, speaking, breathing, learning, and working.

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The ADA has five major Titles:

Title I Employment

- Covers every aspect of employment from hiring to dismissal for public and private employees

Title II Public Entities

- Requires all programs, services, and activities to be fully accessible

Title III Public Accommodations

- Covers all quasi-private business and transportation services such as private colleges/universities, restaurants, hotels, shopping malls, theaters, and hospitals

Title IV Telecommunications

- Requires the availability of Telephone Devices for the Deaf (TDDs) and Relay Services

Title V Miscellaneous

- Removes the Fourteenth Amendment exemption for states and state employees
- Exempts historically registered buildings

Titles II and III have particular relevance for college students with disabilities.

Constitutional Authority

The scope of the ADA is more pervasive and intrusive than Section 504 because of its constitutional authority. The provisions of the ADA apply to all private and public entities which have 15 or more employees and which are involved in interstate commerce. The Interstate Commerce Clause of the Constitution confers on Congress the right "to regulate commerce with foreign nations, and among the several States . . . ." In today's complex, interdependent information age, very few things are outside of interstate commerce. Like the ADA, the Civil Rights Act of 1964 is enforced through the Interstate Commerce Clause. In contrast to the ADA, Section 504's constitutional authority comes from Congress' power over the purse.

Verification of Disabilities

The ADA's legislative history and its redefinition of disability suggest that someone without a disability can be declared disabled. The second prong of the definition, "has a record of such an impairment," is revolutionary; a student might have "a record of such an impairment" through misdiagnosis, yet still benefit from the ADA. Public schools can arbitrarily retest students every three years; postsecondary schools cannot. At the postsecondary level, information from a student's high school IEP is acceptable verification. The ADA does, however, require that each student be viewed and assessed individually at the postsecondary level to decide if additional testing is needed. The apparent assumption is that college-age students have less physiological and other developmental growth to experience than do public school students and that there will be less variability in their disability.

The third prong of the definition and the legislative history of the ADA suggest that when a private or public employee regards a student as having a disability, the student is, for all intents and purposes under the ADA, "disabled." The legislative history also suggests Congress's willingness to protect individuals with severe disfigurements under the ADA. A student, then, can be classified as disabled regardless of whether he or she is considered disabled by more traditional criteria. For this reason, faculty and administrative staff should not provide special services or academic accommodations until the disability has been verified. Once accommodations have been provided, the college or university must provide services until the student graduates. Verification of the disability is critical in determining which specific services and academic accommodations are appropriate for each student. Funds are not wasted, and the institution is protected against possible accusations of civil rights violations and lawsuits for misdiagnosis. Many postsecondary institutions are reviewing their policies, procedures, and delivery systems to decide how to avoid inadvertent discrimination against students.

The ADA provides schools with relief from unreasonable accommodations in the form of three provisions for when services can be denied: (a) if the delivery of services will radically alter the primary function of the institution, (b) if the delivery of services will result in undue financial hardship on the institution, or (c) if the delivery of services will result in a direct threat to the health and safety of others.

The ADA supplements Section 504's weaker provisions and impacts the private sector; Section 504 applies to the private sector only where federal funding is involved. Combined, Section 504 and the ADA provide a safety net for the approximately 65 million people in the United States who have a disability of some sort. The extension of Civil Rights protection makes individual faculty, administrative staff, and employees personally and financially liable for discrimination in their relationships with students who are disabled. Antidiscrimination claims typically revolve around three issues in postsecondary education: (1) admission, (2) the provision of reasonable accommodations for the students, and (3) access to nonacademic programs, services, and activities.

Employment

When a company employee in the public or private sector is "otherwise qualified," services and accommodations are required under provisions of the ADA. Potential employees must be capable of performing the "essential functions" of the job if they are to be eligible for employment, services, and accommodations. Students with documented disabilities, their parents, and service providers should seriously consider this point as they select programs of study and individual courses. Will they be "otherwise unqualified" for a job in that area? Lawsuits under the ADA proliferated from 250 a month in 1992 to 1,600 a month in 1994; when voluntary settlements are included in the count, private employers have lost two-thirds of court decisions (Kaeter, 1994). The challenge for the private sector is to use postsecondary education's 17 years of experience, to be aware of the requirements of the law, to meet those requirements for individual students when the accommodations are reasonable, and to be prepared for a legal battle when accommodations are unreasonable under the law.

Available Services

Postsecondary schools have created policies and procedures to deliver services and academic accommodations for "otherwise qualified" students with documented disabilities. First of all, students meet the same basic admission requirements and technical standards which qualify any student for college. Inclusion is the usual delivery system. Colleges and universities need not provide services to "unqualified students," yet deciding who is "unqualified" is not always easy. Some who lack knowledge and understanding of learning disabilities, for example, believe students with such disabilities are unqualified for college education. Case law history will establish new guidelines under the ADA as new legal challenges go before the courts.

Section 504 and the ADA mandate reasonableness in providing services and academic accommodations. Service providers, parents, and students cannot expect the same types and levels of services and academic accommodations in college as were provided under the Education for All Handicapped Children Act in elementary and secondary school. To reiterate, for the purposes of postsecondary education, a qualified student with a documented disability is one who meets the basic admission requirements and technical standards of the education program or activity. Some services and accommodations which are provided under Section 504 and the ADA are outlined below.

Admission Requirements

Admittance for all students to a postsecondary school is based on the satisfactory completion of a specified college preparatory curriculum and a combination of class rank and SAT or ACT scores; on the other hand, some schools have open admission policies. A petition process is available in cases where an "otherwise qualified" student is lacking in certain criteria. Students with learning disabilities, for example, who are "otherwise qualified" but have not completed parts of the required college preparatory curriculum may petition for admission.

Through the petition process, students can provide documentation which verifies the specific learning disability and explains why the courses were not taken in high school. The high school IEP can be valuable in documenting the disability and showing what services and academic accommodations were provided in high school. Admission committees can evaluate the student's academic records and the disability documentation to decide if an exception to the admission requirements can be made.

Foreign Language and Math Proficiency Requirements

Many postsecondary institutions have foreign language or math proficiency requirements for graduation. In some cases, substitutions may be made for these requirements; a substitution is more likely to be granted than a waiver. Section 504 regulations support a waiver or substitution as a "reasonable accommodation." Students with documented disabilities can petition to substitute cultural, historical, or other types of courses for their required foreign language, while logic or computer science classes can substitute for math requirements. Department of Education regulation, 34 C. F. R. Section 104.44 (a), for the antidiscrimination provisions of Section 504 of the Rehabilitation Act of 1973, as amended,

> requires that recipient make certain adjustments to academic requirements and practices that discriminate or have the effect of discriminating on the basis of handicap . . . Academic requirements that the recipient can demonstrate are essential to the program . . . will not be regarded as discriminatory . . . . Modifications may include changes in the length of time permitted for completion of the degree substitutions of specific courses . . . . This requirement does not obligate an institution to waive course or other academic requirements. But . . . institutions must accommodate those requirements to the needs of individual handicapped students . . . . An otherwise qualified handicapped student who is deaf [may] substitute an art appreciation or music history course for a required course.

Course substitutions are reasonable accommodations unless the course is a fundamental part of the degree program. Substitutions can be made for most general education courses; for instance, a student can substitute a history or government class on Latin America for a Spanish language class. Substitutions cannot be made for degree-required courses and technical standards fundamental to

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the degree. Legally, a school can determine that a course is a fundamental part of a degree program, but the school must satisfactorily demonstrate how it is fundamental.

Auxiliary Aids and Services

The provision of auxiliary aids is intended to help students achieve their full academic potential by ensuring their equal participation in the "traditional educational" process. The Americans with Disabilities Act has codified many recent federal court decisions which define auxiliary aids and services and radically expands the definition of "auxiliary aids and services" (Section 34.104). Under provisions of the ADA, postsecondary schools have primary responsibility for providing "auxiliary aids and services" when state or private agencies do not provide them for their clients. Since many aids and services are expensive, the cost of meeting this requirement will continue to increase. Schools must remember that many students meet the technical standard for "otherwise qualified" through the availability of these accommodations.

Before the ADA, many postsecondary schools provided note-taker and certain other services only for students with learning disabilities. With the ADA, note-taker and reader services in the classroom should be available for students with other disabilities. When Note-takers and readers are assigned, service providers should guard against personal use. Under the law, the services should be exclusively for library use and for classroom instruction and assignments.

Section 504 and the ADA require postsecondary institutions to make adjustments and accommodations to ensure equal access in the traditional educational process for students. Such adjustments and accommodations do not pertain to the individual's rehabilitation and personal needs apart from the educational process, nor do they support discretionary demands from students for specific auxiliary aids and services; service providers and students must collaborate to agree upon aids and services.

Conclusion and Summary

In a narrow sense, police power rests with states, and not with the federal government. The passage of civil rights legislation has precipitated vehement opposition to actual federal police power. Over the objections of many states, the Interstate Commerce Clause has become Congress's primary instrument for enforcing federal power. The Supreme Court upheld Congress's use of the Interstate Commerce Clause in the *Heart of Atlanta Motel v. United States* (1964). Police power refers to the authority to pass regulatory laws to protect the health, morals, safety, good order, and general welfare of the community. In *Heart* (1964), the Court sanctioned this application of police power to overcome social injustices in the first legal challenge to the Civil Rights Act.

The Americans with Disabilities Act also extends the federal government's police powers. The ADA will have an impact similar to the Civil Rights Act as Americans with disabilities are mainstreamed into the social and economic fabric of the country. The ADA will bring about a paradigm shift in the perennial battle for inclusion, just as the Civil Rights Act did for women, African-Americans, and other minorities.

Postsecondary education poses many challenges for students with documented disabilities. The major differences between secondary and postsecondary education are found in the contrasting terms: "rights" versus "privileges," and "otherwise qualified" versus "otherwise unqualified." Even students who attend private colleges and universities enter into a legal contract between their schools and themselves. Another important issue is that a student can qualify for access to a degree program and meet its technical standards and still be unqualified for employment in the same field; in other words, a person's graduation from a degree program cannot be used as evidence for discrimination against an employer who does not hire him or her. Service providers, parents, and students should become familiar with qualifications for admission to and graduation from institutions of higher education and with the requirements of employers under the ADA. Faculty, staff, and employees must remember that the ADA holds them legally and financially liable for his or her actions separate from the school. That is, individuals can be sued for discrimination.

Forrest Gump is correct; "Life is like a box of chocolates, you never know what you're going to get" in college (*Forrest Gump,* 1994). Parents and students with disabilities do not know what is available at the postsecondary level because services and academic accommodations differ from school to school. Without an athletic scholarship, a supportive mother, and a girlfriend who taught him how to read, Forrest Gump would not have successfully earned a college degree and enlisted in the Army. In the real world, Forrest Gump's mental retardation probably would have disqualified him for admission to a postsecondary school; most individuals with mental retardation do not achieve the level of success Forrest Gump achieved. At the same time, many who are perceived by the world at large as mentally retarded and, therefore, intellectually incapable of college level work perform brilliantly when given the chance. That is the purpose of the ADA: to insure that disability, perceived or real, does not impede ability.

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Final Thoughts

Linda Lucas Walling

People with disabilities are on campus and probably always have been. They utilize their abilities to succeed in higher education; they are students, administrators, and faculty and staff members. Many of them are invisible and choose to stay that way, while others take advantage of the support services offered by the institution. Under the provisions of the Americans with Disabilities Act, colleges and universities must provide "reasonable accommodations" for students and employees who are "otherwise qualified" to enroll or be employed unless the accommodations present an "undue burden" on the institution. The authors of this monograph have suggested some of the reasonable accommodations which campuses can provide.

Faculty, administrators, and staff are individually accountable for providing "reasonable accommodations." Those who remain blind to the talents and abilities that people with disabilities bring to campus may well find themselves facing a law suit. West provides strong evidence that developments in technology may change traditional learners into people with disabilities in the future. We must wisely learn to acknowledge and make use of the talents and abilities of all people; the abilities students with disabilities bring to a campus, and to the world at large, cannot be discounted.

Joseph Shapiro (1993) takes as his premise "the new thinking among people with disabilities that there is no pity or tragedy in disability, and that the most formidable barriers to full participation are those imposed by society" (New Resources, 1993, p. 14). To the amazement of many, deaf activists cling passionately to their deafness and their native language, American Sign Language (ASL), refusing to be labeled "disabled;" Solomon (1994) eloquently interprets their case for the hearing world. The traditional attitudes of pity, charity, and overprotection are no longer appropriate (if they ever were).

The abilities of people with disabilities are highlighted through adaptive technology. The computer and the Internet have the power to make disability truly invisible. It matters little what type of input or output device sends or receives a message. The message is seen and heard; the sender and receiver are not. Ability comes through the message loud and clear; perhaps those who remain unconvinced of talent will be convinced as they interact with students and colleagues electronically.

A friend tells the story of a colleague who is more than a little uncomfortable around people with disabilities. Via the Internet the colleague began a correspondence which developed into a professional friendship. When the colleague happened to be at a convention in the city where her friend lived, she arranged to meet him for breakfast. She discovered to her chagrin that her Internet friend had severe cerebral palsy. We have no word on how the breakfast went or whether the friendship continued, but we can hope that it was his ability, not his disability, which was remembered. We cannot afford to leave good minds idle; they are needed to help solve the multiplicity of problems the world faces today.

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Thomas G. West is the author of *In the Mind's Eye*, now in its seventh printing in English and its fifth printing in Japanese. The book deals with creative visual thinkers, computer graphics and scientific visualization, recent neurological research, and gifted persons with learning difficulties, examining the role of visual-spatial strengths and verbal weaknesses in the lives of ten historical persons. From a family of artists and engineers, he has long been interested in the subjects brought together in his book. At age 41, he learned of his own dyslexia. West holds graduate and undergraduate degrees in international relations, literature, and philosophy and has worked with engineering and consulting organizations in computer software design, energy research, and international trade. He may be contacted on 4139461@mcimail.com.

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APPENDIX A

Communication Techniques Often Used by People with Selected Disabilities

Deafness

Speechreading
Manual (Sign) Language:
    Fingerspelling
    Cued speech
    American Sign Language (ASL)
    Signed English
Total Communication (sign, speech, and speechreading combined)
Writing
Gesture

Recommended techniques

1. Stand or sit in good light, without shadow or glare. Keep your head up, facing the person.
2. Arrange for him/her to sit or stand close.
3. He/she should not face the light source.
4. Speak clearly, without distortion, moving your lips. Lipstick highlights the lips; mustaches, beards, chewing gum, and cigarettes mask lip movement.
5. It is preferable to sign high on the body against solid- color clothing which contrasts with skin color.
6. Arrange for an interpreter for the deaf when one is needed. When an interpreter is used, speak directly to the person who is deaf, not to the interpreter.

Hard of Hearing

Many of the same things apply (e.g., face the person and enunciate clearly, without distortion).

Other considerations

1. Speaking loudly is generally not helpful.
2. Repeat the message using different words; someone who is hard of hearing usually hears only parts of words, so some words are very difficult to understand. Synonyms may be understood more easily.

Legal Blindness and Low Vision

1. Make sure that the person can use his/her residual sight and other senses. That is, be sure the lighting and acoustics are good.
2. Do not speak more loudly than usual.
3. When giving directions, be very specific. Depending on the degree of disability, you may need to speak in terms of the person's left and right, not yours. Speak in terms of the number of steps; it often helps to talk about locations as points on a clock with the person as the center.

Speech Disabilities

The person may communicate using:

Speech
Sign Language
Gesture
Writing
Assistive Communication Devices

Techniques

1. Be patient.
2. Listen attentively.
3. Watch the person's lips (that is, speechread)
4. Ask him/her to repeat as needed.
5. Give him/her plenty of time. More time is required regardless of the technique.

If the person stutters:

1. Don't call attention to the problem.
2. Don't complete sentences for him/her.
3. Don't be embarrassed by the stuttering.

Language or Perceptual Disability: (e. g., Learning Disabilities, Traumatic Brain Injury)

If you have difficulty communicating, try the following:

1. Speak distinctly and correctly.
2. Present information in small segments.
3. Do not raise your voice.
4. Repeat each segment.
5. Present information in several learning modes (i.e., visual, aural, tactile/kinesthetic). A text reader or audio recordings may be needed.
6. Be prepared to use sign language or assistive communication devices.

Some Specific Behaviors To Watch For

- Staring, periods during which the person is "out of touch," and repetitive movements may be indicators of absence or psychomotor seizures.
- Unusual agitation, panic, and difficulty with breathing may signal anaphylaxis.
- Slurred speech, sudden changes in behavior, and unusual sleepiness may indicate insulin reaction.
- If a person holds reading material close to his/her face or at an unusual angle, he/she may have low vision or he/she may have a learning (reading) disability.

APPENDIX B

A Directory of State Assistive Technology Projects

Compiled by
Robbie Ludy
and Merv Blunt

Alabama Technology Access Project
Phone (205)288-0240 FAX (205)288-7171

American Samoa Assistive Technology Project
Phone (684)633-2336 FAX (684)633-2393

Assistive Technologies of Alaska
Phone (800)770-0138 (Voice/TT [text telephone]) FAX (907)274-0516

Arkansas Increasing Capabilities Access Network
Phone (501)666-8868 (Voice/TT) (800)828-2799 (in state only)
FAX (501)666-5319

California Assistive Technology System
Phone (916)323-0595 FAX (916)327-6919

Colorado Assistive Technology Project
Phone (303)420-2942 (Voice/TT) FAX (303)420-8675

Connecticut Assistive Technology Project
Phone (203)298-2042 FAX (203)298-9590

Delaware Assistive Technology Initiative
Phone (302)651-6790 (302)651-6794 (TT) FAX (302)651-6793

D.C. Partnership for Assistive Technology
Phone (202)877-1498 FAX (202)723-0628

Florida Assistive Technology Project
Phone (904)488-8380 FAX (904)488-8062

Georgia Tools for Life
Phone (800)726-9119 FAX (404)657-3086

Hawaii Assistive Technology System
Phone (808)532-7110 (Voice/TT) FAX (808)532-7120

Idaho Assistive Technology Project
Phone (208)885-9429 FAX (208)885-9056

Illinois Assistive Technology Project
Phone (217)522-7985 (Voice/TT) (800)852-5110 (in state only, Voice/TT)
FAX (217)522-8067

Indiana ATTAIN (Accessing Technology Through Awareness in Indiana) Project
Phone (800)545-7763 FAX (317)232-6478

Iowa Program for Assistive Technology
Phone (800)331-3027 FAX (319)356-8284

Kansas Assistive Technology Project
Phone (316)421-6550 x1890 or x1894 FAX (316)421-6550 x1702

Kentucky Assistive Technology Services Network
Phone (502)573-4665 (Voice/TT) FAX (502)573-3976

Louisiana Technology Assistance Network
Phone (800)922-DIAL (800)256-2633 (TT) FAX (504)342-4419

Maine CITE (Consumer Information & Technology Training Exchange)
Phone (207)621-3195 (Voice/TT) FAX (207)621-3193

Maryland Technology Assistance Program
Phone (800)TECH-TAP (410)333-4975 (Voice/TT) FAX (410)333-6674

Massachusetts Assistive Technology Partnership Center
Phone (617)727-5540 (617)345-9743 (TT) FAX (617)735-6345

Michigan Tech 2000
Phone (517)373-4056 FAX (517) 373-4058

Minnesota Star Program
Phone (800)332-3027 (612)296-9962 (TT) FAX (612) 282-6671

Mississippi Project Start
Phone (601)354-6891 (Voice/TT) FAX (601)354-6080

Missouri Assistive Technology Project
Phone (800)647-8557 (800)647-8558 (TT)
FAX (816)373-9314

[Montana] Montech
Phone (406)243-5676 FAX (406)243-2349

Nebraska Assistive Technology Project
Phone (402)472-3647 (Voice/TT) FAX (402)471-0117

Nevada Assistive Technology Project
Phone (702)687-4452 (Voice) (702)687-3388(TT) FAX (702)687-3292

New Hampshire Technology Partnership Project
Phone (603)224-0630 (Voice/TT) FAX (603)228-3270

New Jersey Technology Assistive Resource Program
Phone (609)292-7496 FAX (609)292-8347

New Mexico Technology Assistance Program
Phone (800)866-ABLE (Voice/TT) FAX (505)827-3746

New York State Traid Project
Phone (518)474-2825 (Voice) (518)473-4231 (TT) FAX (518)473-6005

North Carolina Assistive Technology Project
Phone (800)852-0042 (919)850-2787 (Voice/TT) FAX (919)850-2792

North Dakota Interagency Program for Assistive Technology
Phone (701)265-4807 FAX (701)265-3150

Ohio Train
Phone (614)438-1450 FAX (614)438-1257

Oklahoma Assistive Technology Project
Phone (405)424-4311 FAX (405)427-2753

Oregon Technology Access for Life Needs Project
Phone (503)399-4950 FAX (503)399-6978

Pennsylvania Initiative on Assistive Technology
Phone (215)204-1356 FAX (215)204-6336

Puerto Rico Assistive Technology Project
Phone (809)764-0000 x4408 FAX (809)763-4130

Rhode Island Assistive Technology Access Project
Phone (800)752-8038 x2608 FAX (401)473-6005

South Carolina Assistive Technology Program
Phone (803)822-5404 (Voice/TT) FAX (803)822-4301

[South Dakota] Dakota Link
Phone (800)645-0673 (Voice/TT) FAX (605)394-5315

Tennessee Technology Access Project
Phone (615) 532-6530 (800)732-5059 (in state only) FAX (615)532-6612

Texas Assistive Technology Project
Phone (512)471-7621 FAX (512)471-7549

Utah Assistive Technology Program
Phone (800)333-Utah FAX (801)750-2355

Vermont Assistive Technology Project
Phone (802)241-2620 (Voice/TT) FAX (802)241-3052

Virginia Assistive Technology System
Phone (804)662-9990 (Voice/TT) FAX (804)662-9478

Washington State Assistive Technology Project
Phone (206)438-8049 FAX (206)438-8007

West Virginia Assistive Technology System
Phone (800)841-8436 FAX (304)293-7294

[Wisconsin] Wistech
Phone (608)266-5395 (608)267-6720 (Voice) or 266-9599 (TT)

Wyoming New Options in Technology
Phone (307) 777-6947 FAX (307)777-5939

APPENDIX C

Selected Organizations, Serials, and Internet Resources

Organizations

Association on Higher Education and Disability (AHEAD)
P. O. Box 21192
Columbus, OH 43221-0192
(614)488-4972 (V/T)
(614)488-1174 (Fax)
E-mail: ahead@postbox.acs.ohio-state.edu
AHEAD is a membership organization for individuals involved in developing policy and providing quality support services to serve the needs of persons with disabilities involved in all areas of higher education. It publishes the quarterly *Journal of Postsecondary Education and Disability* and *ALERT*, a newsletter.

Canadian National Institute for the Blind
Library for the Blind
1929 Bayview Ave.
Toronto, Ontario, Canada M4G 3E8
Phone: (416)480-7520
Fax: (416)480-7700
Through the National Transcription Service (NTS), CNIB provides materials in alternate formats (braille and audio cassettes) to qualified people with disabilities. CNIB can lend or sell alternate format materials to organizations which serve clients who are unable to read print because of some physical problem.

Gallaudet University
800 Florida Ave., NE
Washington, DC 20002
Phone: (202)651-5000
Gallaudet University publishes many resources on deafness for all age groups. A Deafness Information Center is housed there.

HEATH Resource Center
One Dupont Circle
Suite 800
Washington, DC 20036
(800)544-3284 (voice/TT [text telephone])
HEATH@ACE.NCHE.EDU (Internet)
(202)833-4760 (Fax)
HEATH produces many publications related to postsecondary education and training for people with disabilities including *Information from HEATH*, a free publication.

National Alliance of Blind Students (NABS)
American Council of the Blind
1155 15th Street, NW, Suite 720
Washington, DC 20005
(202)467-5081
NABS works for educational equity and excellence in high schools and undergraduate and graduate schools. It publishes *The Student Advocate*, a newsletter.

National Library Service for the Blind and Physically Handicapped
Library of Congress
Washington, DC 20542
Through a system of regional libraries across the United States, eligible users may borrow talking books and/or braille materials at no cost. (Textbooks are not provided.) In general, anyone who cannot use regular print as a result of a physical condition may borrow items. In most states, users can contact the regional library for the blind and physically handicapped through the state library.

National Rehabilitation Information Center
8455 Colesville Road, Suite 935
Silver Spring, MD 20910-3319
(800)345-2742 (voice/TT)
This depository and clearinghouse for information on disability issues is funded by the National Institute on Disability and Rehabilitation Research, U. S. Department of Education. NARIC publishes *NARIC Quarterly*, a free newsletter.

Recording for the Blind and Dyslexic
20 Roszel Road
Princeton, NJ 08540
Phone: (800)221-4792
RFB provides recorded textbooks and other educational services for individuals who cannot use regular print because of a visual, perceptual, or physical disability. The E-TEXT program provides resources on computer disk; E-TEXT documents are available in ASCII format for Macintosh and IBM systems. RFB provides free access to its library of recorded and electronic texts to individuals who have paid a one-time membership fee of $37.50.

TRACE Research and Development Center
S-151 Waisman Center
University of Wisconsin
1500 Highland Avenue
Madison, WI 53705
(608)262-6966
(608)263-5408 (TT)

TRACE has a long history of pioneering in the development of adaptive technology. Its publications are excellent resources on the subject.

Serials

Disability Accommodation Digest

A quarterly newsletter which provides information about disability discrimination laws in general, and the ADA in particular. Subscriptions are available for $65 from Heyward, Lawton & Associates, PO Box 357, Narragansett, RI 02882-0357. Phone: (800)525-9220 FAX: (401)789-5089

Enforcing the ADA—A Status Report Update from the Department of Justice

The report summarizes recent settlements and agreements, describes available technical assistance, and lists sources of information about ADA. To obtain issues, call (800)514-0301/voice, or (800)514-0383/TT.

Information from HEATH: See HEATH Resource Center.

NARIC Quarterly: See National Rehabilitation Information Center.

Internet Resources

ABLE INFORM

ABLE INFORM, which includes ABLEDATA, REHABDATA, and the NARIC KnowledgeBase, is NARIC/ABLEDATA's electronic bulletin board. To access ABLE INFORM via modem call (301)589-3563 and use modem settings 2400 Baud, 8-N-1.

ABLEDATA
8455 Colesville Road, Suite 935
Silver Spring, MD 20910-3319
(800)346-2742 (voice/TT)

This online database, maintained by the National Rehabilitation Information Center, lists information on some 18,000 assistive devices available commercially and noncommercially. It can be accessed through ABLE INFORM.

ADA-LAW

ADA-LAW is a listserv which shares information about the latest developments relating to the ADA. To subscribe, send a message with a blank subject line to <<LISTSERV@VM1.NODAK.EDU>>. In the body of the message, enter "Subscribe ADA-LAW Firstname Lastname."

AXSLIB-L

This listserv focuses on library access issues related to people with disabilities. To subscribe, send a message to <<LISTSERV@SJUVM.STJOHNS.EDU>>.

Cornucopia of Disability Information (CODI)

CODI is a community resource for consumers and professionals accessible via Gopher server. To access, type: <<Gopher VAL-DOR.CC.BUFFALO.EDU 70>> or <<TELNET PANDA.UIOWA.EDU>>. For information, contact: Jay Leavitt, Associate Director, University Computing, University of Buffalo, 201 Computing Center, Box 601408, Buffalo, NY 14260; Internet address: <<LEAVITT@UBVMS.CC.BUFFALO.EDU>>.

DO-IT (Disability, Opportunities, Interneting, & Technology)

DO-IT is a compilation of Internet sources which may be accessed via the Gopher server, <<HAWKING.U.WASHINGTON.EDU>>. A free print copy can be obtained by calling (206)685-DO-IT or by writing DO-IT, University of Washington, Mailstop JE-25, Seattle, WA 98195.

DSSHE-L (Disabled Student Services in Higher Education)

DSSHE-L is a listserv discussion group on services for students with disabilities in higher education. To subscribe, send a message to <<LISTSERV@UBVM>>. In the text, say SUB DSSHE-L "YOUR REAL NAME."

EASI [Project EASI]:

Project EASI (Equal Access to Software and Information) provides information and advice about college and university applications of adaptive technology. Several Project EASI publications are available online. To obtain general information about EASI, send a message to <<EASI@EDUCOM.EDU>>

NARIC KnowledgeBase

NARIC KnowledgeBase is a directory of more than 3,000 sources of local and national information. It is available through ABLE INFORM.

REHABDATA

REHABDATA is a bibliography of the NARIC Library available through ABLE INFORM.

WIDNet (World Institute on Disability Network)

WIDNet includes Requests for Proposals and Notices of Proposed Rule Making of interest to people with disabilities and those serving them. It also includes a document library of disability-related laws, regulations, and publications. For free online pricing information and to subscribe, call (800)695-4002 with a modem, press ENTER once or twice when you are connected, and use the password <<WIDNet>>.